Fujitsu M10-4/SPARC M10-4

Installation Guide

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Preface

This document describes methods of installing and setting up the SPARC M10-4 from Oracle or Fujitsu. The document assumes that the system has already been unpacked.

Fujitsu M10 is sold as SPARC M10 Systems by Fujitsu in Japan.
Fujitsu M10 and SPARC M10 Systems are identical products.

This preface includes the following sections:

- Audience
- Related Documentation
- Text Conventions
- Safety Precautions
- Syntax of the Command-Line Interface (CLI)
- Document Feedback

Audience

This document is designed for system administrators with advanced knowledge of computer networks and Oracle Solaris, the service engineers who are in charge of system maintenance, and field engineers.

Related Documentation

All documents for your server are available online at the following sites:

- Documents related to Oracle software (Oracle Solaris, etc.)
  http://www.oracle.com/documentation/
- Fujitsu documents
  Japanese site

  http://jp.fujitsu.com/platform/server/sparc/manual/

  Global site

  http://www.fujitsu.com/global/services/computing/server/sparc/downloads/manual/

The following table lists documents related to the SPARC M10 systems.

SPARC M10 systems-related documentation (*1)
Fujitsu M10/SPARC M10 Systems Getting Started Guide (*2)
Fujitsu M10/SPARC M10 Systems Quick Guide
Fujitsu M10/SPARC M10 Systems Important Legal and Safety Information (*2)
Software License Conditions for Fujitsu M10/SPARC M10 Systems
Fujitsu M10/SPARC M10 Systems Safety and Compliance Guide
Fujitsu M10/SPARC M10 Systems Security Guide
Fujitsu M10/SPARC M10 Systems/SPARC Enterprise/PRIMEQUEST Common Installation Planning Manual
Fujitsu M10-1/SPARC M10-1 Installation Guide
Fujitsu M10-4/SPARC M10-4 Installation Guide
Fujitsu M10-4S/SPARC M10-4S Installation Guide
Fujitsu M10-1/SPARC M10-1 Service Manual
Fujitsu M10-4/Fujitsu M10-4S/SPARC M10-4/SPARC M10-4S Service Manual
Crossbar Box for Fujitsu M10/SPARC M10 Systems Service Manual
PCI Expansion Unit for Fujitsu M10/SPARC M10 Systems Service Manual
Fujitsu M10/SPARC M10 Systems PCI Card Installation Guide
Fujitsu M10/SPARC M10 Systems System Operation and Administration Guide
Fujitsu M10/SPARC M10 Systems Domain Configuration Guide
Fujitsu M10/SPARC M10 Systems XSCF Reference Manual
Fujitsu M10/SPARC M10 Systems RCIL User Guide (*3)
Fujitsu M10/SPARC M10 Systems XSCF MIB and Trap Lists
Fujitsu M10/SPARC M10 Systems Product Notes
Fujitsu M10/SPARC M10 Systems Glossary

*1 The listed manuals are subject to change without notice.
*2 The printed manual comes with the product.
*3 This document applies specifically to the FUJITSU M10 and FUJITSU ETERNUS storage system.

Text Conventions

This document uses the following fonts and symbols to express specific types of information.

Font/Symbol	Meaning	Example
AaBbCc123	Indicates what you enter, in contrast to what is displayed on the screen. This font is used to indicate an example of command input.	XSCF> **adduser jsmith**
AaBbCc123	Indicates the names of commands, files, and directories displayed in computer output and on the screen. This font is used to indicate an example of command input within the relevant framework.	XSCF> **showuser -P** User Name: jsmith Privileges: useradm auditadm
Italic	Indicates the names of reference manuals.	See the *Fujitsu M10-1/SPARC M10-1 Installation Guide*.
" "	Indicates the names of chapters, sections, items, buttons, and menus.	See "Chapter 2 Network Connection."

Command syntax in the text

Though the XSCF commands have a section number of (8) or (1), it is omitted in the text.
The Oracle Solaris commands have a section number such as (1M) in the text.
Each command has a section number in the command name when prompting users to refer to it.

Safety Precautions

Read the following documents thoroughly before using or handling any SPARC M10 system:

- *Fujitsu M10/SPARC M10 Systems Important Legal and Safety Information*
- *Fujitsu M10/SPARC M10 Systems Safety and Compliance Guide*

Syntax of the Command-Line Interface (CLI)

The command syntax is as follows.

- A variable that requires input of a value is in italics.
- An optional element is enclosed in [ ].
- A group of options for an optional keyword is enclosed in [ ] and delimited by |.

Document Feedback

If you have any comments or requests regarding this document, please contact us from the following URL with the relevant manual number, manual title, and pages along with specific details:

- Japanese site
  http://jp.fujitsu.com/platform/server/sparc/manual/
- Global site
  http://www.fujitsu.com/global/services/computing/server/sparc/downloads/manual/

Chapter 1

Understanding the Installation Flow

This chapter describes the required workflows for installation of the SPARC M10-4 and PCI expansion unit, broken up into the following sections.
For the overview, configuration, and specifications of the SPARC M10-4 and PCI expansion unit, see the *Fujitsu M10/SPARC M10 Systems Quick Guide*.

- Workflow for the SPARC M10-4
- Workflow When Installing the PCI Expansion Unit

1.1 Workflow for the SPARC M10-4

The SPARC M10-4 is a 4U-size chassis that can be configured with up to 4 CPUs (32 or 64 cores). The building block cannot be configured. The SPARC M10-4 is used alone.
This section describes the flow from SPARC M10-4 installation and installation of the PCI expansion unit, which is an option mounted in the SPARC M10-4, to the initial system settings.
The initial system settings are the settings implemented before system startup, and they include the XSCF setup and CPU Activation setting. Skip the steps for the PCI expansion unit if it is not to be installed.

By clicking a reference enclosed in " " to display a section, you can see the details of the respective step. Italic font is used to indicate the name of a reference manual other than this manual.

Table 1-1 Workflow for the SPARC M10-4

Step (work time (*1))	Work description	Reference	
Installation work (approx. 38 minutes (*2))			
1	Check the latest information available in the *Fujitsu M10/SPARC M10 Systems Product Notes*.	*Fujitsu M10/SPARC M10 Systems Product Notes*	Required

Table 1-1 Workflow for the SPARC M10-4 *(continued)*

Step (work time (*1))	Work description	Reference	
2	Before installing the system, check the safety precautions, system specifications, and necessary conditions for installation.	"Chapter 2 Planning and Preparing for System Installation"	Required
3	Prepare the necessary tools/ information for installation.	"3.1 Preparing the Necessary Tools/Information for Installation"	Required
4	Confirm the delivered components.	"3.2.1 Confirming the delivered components of the SPARC M10-4"	Required
		"3.2.2 Confirming the delivered components of the PCI expansion unit"	Optional
5	Install the rack.	See the manual for each rack.	Required
6	Mount the SPARC M10-4 in the rack.	"3.3.1 Mounting the SPARC M10-4 in a rack"	Required
7	If there is a PCI expansion unit, mount it in the rack.	"3.3.2 Mounting the PCI expansion unit in a rack"	Optional
8	If there are optional components, mount them on the SPARC M10-4 or PCI expansion unit.	"3.4.1 Mounting optional components in the SPARC M10-4"	Optional (*3)
		"3.4.2 Mounting optional components in the PCI expansion unit"	Optional (*3)
9	Connect serial cables, LAN cables, and power cords to the SPARC M10-4.	"4.1 Connecting Cables to the SPARC M10-4"	Required
10	If there is a PCI expansion unit, connect the link cable and management cable to the PCI expansion unit. Attach the core to the power cord, and connect the power cord to the power supply unit.	"4.2 Connecting Cables to the PCI Expansion Unit"	Optional (*4)
Initial diagnosis (approx. 45 minutes)			
11	Connect the system management terminal to the SPARC M10-4, and turn on the input power.	"5.1 Connecting the System Management Terminal to the Chassis" "5.2 Turning on the Input Power and Starting the XSCF"	Required
12	Log in to the XSCF of SPARC M10-4, and check the firmware version number, altitude setting, and time setting.	"5.3 Logging In to the XSCF" "5.4 Checking the XCP Version" "5.5 Checking the Altitude Setting" "5.6 Checking the Time Setting"	Required
13	Perform an initial diagnosis test on the physical system board (PSB).	"5.7 Performing a Diagnosis Test"	Required
14	Check the status of mounted components.	"5.8 Checking the Component Status"	Required

Table 1-1 Workflow for the SPARC M10-4 *(continued)*

Step (work time (*1))	Work description	Reference	
Initial system settings (approx. 60 minutes)			
15	Set the password policy.	"6.1 Setting the Password Policy"	Required
16	Set a user account and password.	"6.2 Setting a User Account and Password"	Required
17	Configure the telnet or SSH service.	"6.3 Configuring the Telnet/SSH Service"	Required
18	Configure the HTTPS service.	"6.4 Configuring the HTTPS Service"	Required
19	Configure the XSCF network.	"6.5 Configuring the XSCF Network"	Required
20	When duplicating memory, configure memory mirroring.	"6.6 Configuring Memory Mirroring"	Optional
21	Set the configuration policy for a physical partition.	"6.7 Creating a Physical Partition Configuration List (PCL)"	Optional (*5)
22	Confirm that the system board (PSB) is assigned to a physical partition (PPAR).	"6.8 Confirming that a System Board (PSB) is Assigned to a Physical Partition (PPAR)"	Required
23	Set a CPU operational mode for the physical partition.	"6.9 Setting a CPU Operational Mode for the Physical Partition"	Optional
24	Clear the difference between the system time and physical partition (PPAR) time.	"6.10 Synchronizing the Physical Partition (PPAR) Time and XSCF Time"	Required
25	Add a CPU Activation key to the system.	"6.11 Registering a CPU Activation Key"	Required (*6)
26	Assign CPU resources to the physical partition.	"6.12 Assigning CPU Core Resources"	Required
27	Confirm the start/stop of the physical partition and the connection of the console.	"6.13 Starting and Stopping a Physical Partition (PPAR)"	Required

*1 Average work time
*2 Time required for mounting optional components and installing the PCI expansion unit is not included.
*3 If the optional components are ordered together with the SPARC M10-4, they are shipped mounted to the SPARC M10-4. If the PCI expansion unit is also ordered, the optional components are shipped mounted to the PCI expansion unit.
*4 The link card is shipped mounted to the SPARC M10-4.
*5 The physical partition configuration information is already set.
*6 One CD-ROM disk containing a CPU Activation certificate is provided with the system. The CPU Activation key may be registered with the system.

Note - The SPARC M10 systems have Oracle Solaris preinstalled. According to the purpose, either use the preinstalled Oracle Solaris as is or reinstall it.
To reinstall Oracle Solaris, install the latest Oracle VM Server for SPARC. For the latest information on the supported Oracle Solaris versions and SRU, see the *Fujitsu M10/SPARC M10 Systems Product Notes*.

1.2 Workflow When Installing the PCI Expansion Unit

The PCI expansion unit is a 2U chassis with 11 PCI slots, and it can connect to the SPARC M10-4. Special attention is required for the installation location and the number of link cards that can be installed in the SPARC M10-4 when the PCI expansion unit is installed in the SPARC M10-4. Install link cards according to the Table 1-2 rules.

Table 1-2 SPARC M10-4 link card installation rule

Maximum installable number	Link card installation location
[2-CPU configuration] 3	PCI#0 PCI#3 PCI#7
[4-CPU configuration] 6	PCI#0 PCI#1 PCI#3 PCI#5 PCI#7 PCI#9

Note - For the details on the link card installation rule, see "Chapter 2 PCI Card Mounting Rules for the SPARC M10-4" in the *Fujitsu M10/SPARC M10 PCI Card Installation Guide*.

This section describes the workflows from installation of PCI expansion unit through status check of components when the PCI expansion unit is connected under system stop.

By clicking a reference enclosed in " " to display a section, you can see the details of the respective step. Italic font is used to indicate the name of a reference manual other than this manual.

Table 1-3 Workflow when installing the PCI expansion unit

Step (work time (*1))	Work description	Reference	
Installation work (approx. 38 minutes (*2))			
1	Check the latest information available in the *Fujitsu M10/SPARC M10 Systems Product Notes*.	*Fujitsu M10/SPARC M10 Systems Product Notes*	Required
2	Before installing the system, check the safety precautions, system specifications, and necessary conditions for installation.	"Chapter 2 Planning and Preparing for System Installation"	Required

Table 1-3 Workflow when installing the PCI expansion unit *(continued)*

Step (work time (*1))	Work description	Reference	
3	Prepare the necessary tools/ information for installation.	"3.1 Preparing the Necessary Tools/Information for Installation"	Required
4	Confirm the delivered components.	"3.2.2 Confirming the delivered components of the PCI expansion unit"	Required
5	Install the rack.	See the manual for each rack.	Required (*3)
6	Mount the PCI expansion unit in the rack.	"3.3.2 Mounting the PCI expansion unit in a rack"	Required
7	Install the link card on the SPARC M10-4.	"8.5 Installing a PCI Express Card" in the *Fujitsu M10-4/Fujitsu M10-4S/SPARC M10-4/SPARC M10-4S Service Manual*	Required
8	If there are optional components, mount them on the PCI expansion unit.	"3.4.2 Mounting optional components in the PCI expansion unit" "Chapter 2 PCI Card Mounting Rules for the SPARC M10-4" in the *Fujitsu M10/SPARC M10 Systems PCI Card Installation Guide*	Optional (*4)
9	Connect the link cable and management cable to the PCI expansion unit. Attach the core to the power cord, and connect the power cord to the power supply unit.	"4.2 Connecting Cables to the PCI Expansion Unit"	Required
Initial diagnosis (approx. 45 minutes)			
10	Connect the system management terminal to the M10-4.	"5.1 Connecting the System Management Terminal to the Chassis"	Required
11	Turn on the input power.	"5.2 Turning on the Input Power and Starting the XSCF"	Required
12	Log in to the XSCF.	"5.3 Logging In to the XSCF"	Required
13	Perform an initial diagnosis test on the physical system board (PSB).	"5.7 Performing a Diagnosis Test"	Required
14	Check the status of mounted components.	"5.8 Checking the Component Status"	Required

*1 Average work time
*2 Time required for mounting optional components is not included.
*3 This is not necessary if the PCI expansion unit is installed in an empty space in the installed rack.
*4 If the optional components are also ordered, they are shipped mounted to the PCI expansion unit.

1.2.1 Points to note on configurations with the PCI expansion unit connected

If you install a PCI expansion unit, keep the following points in mind.

- If the PCI expansion unit to be installed has PCIe cassettes, remove the PCIe cassettes with mounted PCIe cards from the PCI expansion unit. Then, connect the PCI expansion unit to the SPARC M10-4 so that Oracle Solaris in a logical domain (control domain or root domain) can recognize the PCI expansion unit.
  Install the PCIe cassettes with mounted PCIe cards in the PCI expansion unit where Oracle Solaris in the logical domain (control domain or root domain) recognizes the PCI expansion unit. Incorporate the PCIe cards of the PCI expansion unit in Oracle Solaris in the logical domain (control domain or root domain).
- Before installing the PCI expansion unit, execute the ldm list-constraints -x command of the Oracle Solaris in the control domain to save the configuration information of the logical domains to an XML file.
  If the logical domain configuration resets to the factory-default state as a result of restarting the physical partition, execute the ldm init-system -i command on Oracle Solaris in the control domain to restore the configuration information of the logical domains from the XML file.
- If you execute the setpciboxdio command of the XSCF firmware to set the enabling/disabling setting of the direct I/O function of the PCI expansion unit, perform it before you execute the addboard command to install the system board with the PCI expansion unit connected on the physical partition.
- When you have changed the setting of the direct I/O function with the setpciboxdio command of the XSCF firmware, do not restart the logical domains until you execute the ldm add-spconfig command of the Oracle Solaris in the control domain to save the logical domain configuration in XSCF.

Suppose that one of the following operations is performed with the setpciboxdio command using the XCP 2044 or later on the SPARC M10-4. Then, the logical domain configuration of the physical partition will return to the factory-default state at the next control domain start time. Also, the OpenBoot PROM environment variables of the control domain will be initialized.

- Changing the enable/disable setting of the direct I/O function for the PCI expansion unit
- Installing/removing/replacing a PCI expansion unit in a PCI slot of a SPARC M10-4 chassis where the direct I/O function for the PCI expansion unit is enabled

You can execute the setpciboxdio command regardless of whether there is a PCI expansion unit. Before doing so, save the logical domain configuration information from Oracle Solaris to an XML file. Also, write down the setting information for the OpenBoot PROM environment variables of the control domain to set it again.

Table 1-4 indicates what information may need to be saved/restored when changing the enable/disable setting of the direct I/O function for the PCI expansion unit by executing the setpciboxdio command.

Table 1-4 Required operations when executing the setpciboxdio command to toggle the enable/disable setting

PCI expansion unit connected	Current domain configuration	Rebuilding Oracle VM Server for SPARC configuration	Setting OpenBoot PROM environment variables again
No	factory-default (Control domain only)	Not required	Required
No	With logical domains other than control domain	Required (XML file)	Required
Yes	factory-default (Control domain only)	Not required	Required
Yes	With logical domains other than control domain	Required (XML file)	Required

Table 1-5 indicates what information may need to be saved/restored when installing/removing/replacing a PCI expansion unit in a PCI slot of a SPARC M10-4 chassis where the direct I/O function for the PCI expansion unit is enabled. Here, the setpciboxdio command has been executed to enable the function.

Note - In PCI expansion unit maintenance using the PCI hot plug (PHP) function, the direct I/O function is disabled, so the above information does not need to be saved/restored.

Table 1-5 Required operations for the installation/removal/replacement of a PCI expansion unit in a PCI slot of a SPARC M10-4 where the direct I/O function is enabled

Maintenance environment	Current domain configuration	Rebuilding Oracle VM Server for SPARC configuration	Setting OpenBoot PROM environment variables again
Installation/removal with PPAR stopped	factory-default (Control domain only)	Not required	Not required
	With logical domains other than control domain	Required (XML file)	Required
Replacement of faulty PCI expansion unit (*1) with PPAR stopped	factory-default (Control domain only)	Not required	Not required
	With logical domains other than control domain	Required (XML file)	Required

Table 1-5 Required operations for the installation/removal/replacement of a PCI expansion unit in a PCI slot of a SPARC M10-4 where the direct I/O function is enabled *(continued)*

Maintenance environment	Current domain configuration	Rebuilding Oracle VM Server for SPARC configuration	Setting OpenBoot PROM environment variables again
Replacement of normal PCI expansion unit (*1) with PPAR stopped	factory-default (Control domain only)	Not required	Not required
	With logical domains other than control domain	Not required	Not required

*1 This includes even the replacement of a link card, link cable, management cable, and link board.

Note - Execute the ldm list-constraints -x command to save it to an XML file, and execute the ldm init-system -i command to restore it from an XML file. To display the information of OpenBoot PROM environment, execute the printenv command at the ok prompt. For details on these steps, see "1.7.3 How to save/restore the logical domain configuration information and the OpenBoot PROM environment variable" in the *PCI Expansion Unit for Fujitsu M10/SPARC M10 Systems Service Manual*.

Chapter 2

Planning and Preparing for System Installation

This chapter describes what should be checked when planning SPARC M10 system installation. Before installation, you need to understand the system configuration and obtain all the information that will become prerequisite conditions for installation.

- Safety Precautions
- Items Requiring Confirmation before Installation
- Confirming the Physical Specifications of the System
- Confirming Rack Specifications
- Checking Environmental Conditions
- Checking Acoustic Noise Levels
- Checking Cooling Conditions
- Checking the Power Input Type
- Preparing Power Supply Facilities
- Checking External Interface Port Specifications

2.1 Safety Precautions

This section describes precautions regarding installation of the SPARC M10 systems. Be sure to follow the precautions below when performing installation work. Failure to do so may lead to damage to the device or a malfunction.

- Follow all the stated precautions, warnings, and instructions for the chassis.
- Do not insert any foreign object into the chassis openings. Any object that touches a high-voltage part or causes a component to short circuit may lead to fire or electric shock.
- Contact a service engineer for details of chassis inspection.

Safety precautions when working with electricity

- Verify that both the voltage and frequency of input power match the voltage and

frequency indicated on the electrical rating label affixed to the chassis.

- Make sure to wear a wrist strap when handling the internal disk (HDD/SSD), memory, CPU memory unit (upper/lower unit), or other printed circuit boards.
- Make sure to use grounded power outlets.
- Do not make mechanical or electrical modifications to the chassis. We do not take responsibility for regulatory compliance of a modified chassis.
- Do not disconnect a power cord from the chassis while the power is on.

Safety precautions regarding racks

- Racks must be fixed to the floor, ceiling, or nearest frame.
- The quakeresistant options kit may be supplied with the racks. The use of the quakeresistant options kit prevents the rack from toppling over when the chassis is pulled out from the slide rails for installation or maintenance.
- In the following cases, a safety evaluation must be performed by a service engineer before installation or maintenance.
  - If the quakeresistant options kit is not supplied and the rack is not fixed with bolts to the floor, a service engineer confirms the safety of the rack, such as by verifying that it does not topple over when the chassis is pulled out from the slide rails.
  - If the rack is mounted on a raised floor, a service engineer confirms that the floor can withstand the load when the chassis is pulled out from the slide rails. Fix the rack to the concrete floor beneath the raised floor by using the original mounting kit that serves this purpose.
- If multiple chassis are mounted in the rack, perform maintenance on one chassis at a time.

Safety precautions regarding installation work

- With this chassis installed in a closed or multi-unit rack assembly, the ambient temperature inside the rack operating environment may be greater than the ambient room temperature. Therefore, consideration must be given to installing the chassis in an environment compatible with the manufacturer's maximum rated ambient temperature.
  - Consideration of air-conditioning adjustments, such as with air circulation, is needed to prevent the ambient temperature inside the rack from exceeding the maximum ambient operating temperature of this chassis.
  - Maximum ambient operating temperature of this chassis: 35°C
- The installation of the chassis in a rack should allow for sufficient air flow for the chassis to operate safely.
  - This chassis has ventilation slits at the front and rear of the chassis.
  - To prevent overheating, do not cover or close these ventilation slits.
- The mounting of the chassis in the rack should not create any hazardous condition due to uneven mechanical loading. To keep the entire rack stable, fix the rack to the wall or floor by suitable means.
  - Be careful not to injure yourself or others when installing the chassis in the rack.

- Do not install this chassis in the rack if the chassis may make the entire rack unstable.
- Weight of this chassis in the maximum configuration:
  Model SP-4SNB (SPARC M10-4): 58 kg
  Model SP-PCI-BOX (SPARC PCI-BOX): 22 kg

- If the chassis is supplied power from a power strip or the service outlet of another chassis, it may overload the power strip or the power cord of the other chassis.
  - Confirm that the power strip or the power cord of the service outlet exceeds the combined ratings of all the equipment to which it supplies power.
    Electrical ratings of this chassis:
    Model SP-4SNB: 200-240 VAC, 15.0-12.5 A, 50/60 Hz, single phase (maximum 2 inputs)
    Model SP-PCI-BOX: 100-120/200-240 VAC, 5.0-4.2/2.5-2.1 A, 50/60 Hz, Single phase (Maximum 2 inputs)
- Be sure to securely ground the rack-mounted equipment. Pay particular attention to power supply connections other than the direct connections to branch circuits (e.g., use of power strips).

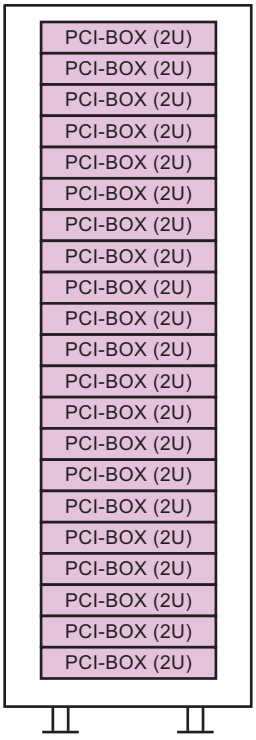
Caution - If all the power cords of this chassis are connected to one power strip, a high leakage current may flow through the grounding wire of the power strip. Be sure to connect the wire to ground before connecting the power supply. If the power strip is not directly connected to a branch circuit, a power strip that has an industrial-type attachment plug must be used.

- Install this equipment such that it is near a wall and a power outlet is easily accessible.

  - Rack configuration

Note - Products must be mounted from the lower rack when they are mounted in a rack.

Figure 2-1 Rack configuration (for the PCI expansion unit)



PCI-BOX: PCI expansion unit

2.2 Items Requiring Confirmation before Installation

This section describes the items that you need to confirm before installing the SPARC M10 system. Before starting installation work, confirm that the requirements in Table 2-1 have been met.

Table 2-1 List of items requiring confirmation before installation

Check item		Check column
System configuration	- Has the system configuration been determined?	
	- Has the required rack space been confirmed?	
	- Has the number of racks been decided?	
Training	- Have the system administrator and operators attended the required training courses?	

Table 2-1 List of items requiring confirmation before installation *(continued)*

Check item		Check column
Installation location	- Has the system installation location been determined?	
	- Does the placement of each chassis meet the service area requirements?	
	- Have the chassis been placed so that their air intakes do not take in exhaust from other equipment?	
	- Have the rack installation requirements been met?	
Access route	- Has the access route for the rack been secured?	
Environmental conditions	- Does the installation location meet the temperature and humidity conditions?	
	- Can the environmental conditions at the installation location be thoroughly maintained and controlled?	
	- Have security measures been established for the installation location?	
	- Does the installation location have sufficient fire extinguishing equipment?	
Power supply facilities	- Do you know the voltage available for the racks where each chassis and peripheral will be mounted?	
	- Are the power supply facilities sufficient for the individual chassis, monitors, and peripherals?	
	- Are the power supply facilities within an appropriate distance from the racks?	
Network specifications	- Do you have the necessary information for network connections?	
CPU Activation	- Has the volume of resources to be used during initial installation been determined?	
	- Have the required CPU Activations been ordered?	

2.3 Confirming the Physical Specifications of the System

This section describes the physical specifications of the system that require confirmation before installation. Confirm that the installation location meets these requirements.

2.3.1 Size and weight

Table 2-2 lists the size and weight of each chassis.

Table 2-2 Physical specifications of each chassis

Item	SPARC M10-4	PCI expansion unit
Height	175 mm (6.9 in.) (4U)	86 mm (3.4 in.) (2U)
Width	440 mm (17.3 in.)	440 mm (17.3 in.)
Depth	746 mm (29.4 in.)	750 mm (29.5 in.)
Weight	58 kg	22 kg

2.4 Confirming Rack Specifications

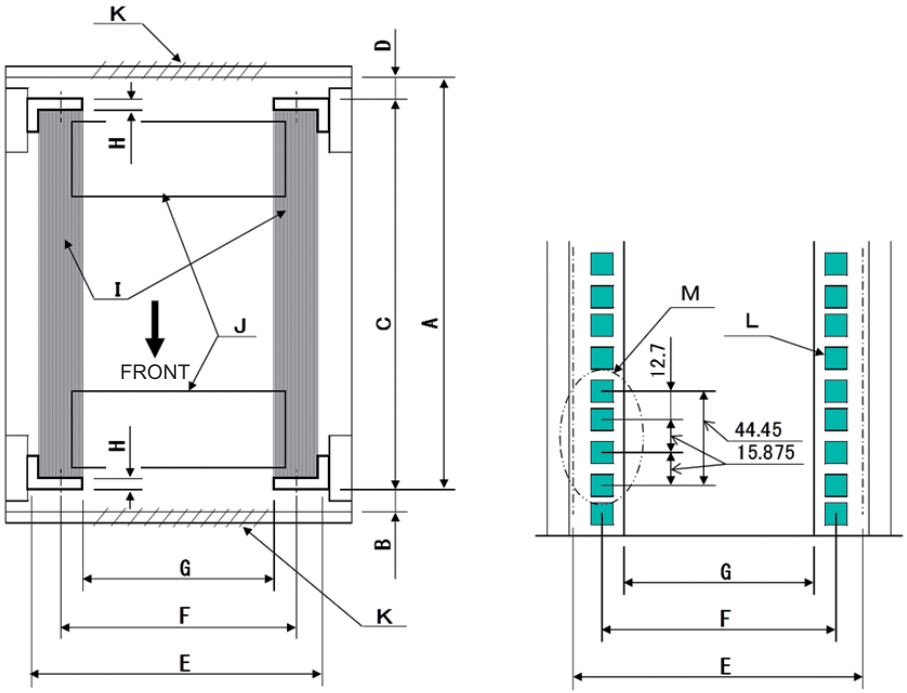
Use a rack that meets the specified conditions for using the SPARC M10-4 or the PCI expansion unit.
This section describes the items that must be confirmed to use a rack

2.4.1 Mounting conditions for general racks

The SPARC M10-4 is designed for mounting in an equipment rack.

For mounting in a third-party rack, it is the customer's responsibility to confirm that the rack specifications match the specifications and requirements for the SPARC M10-4 (see Figure 2-2 and Table 2-3).

Figure 2-2 Dimensional drawings for third-party rack checks



Note - The dimensions shown in the conditions do not include any protrusions.

Table 2-3 Third-party rack checklist

Description	Condition	Letter in figure
Rack type/Compliance standards	Equipment rack/EIA standard-compliant	--
Dimension between rear door (inside) and front column	SPARC M10-4: At least 844 mm (33.2 in.) PCI expansion unit: At least 848 mm (33.4 in.)	A
Dimension between front door (inside) and front column	SPARC M10-4: At least 32 mm (1.3 in.) PCI expansion unit: At least 24 mm (0.9 in.)	B
Dimension between front and rear columns	Within adjustment range of rack mount kit Adjustment range of the mount kit for each server SPARC M10-4: 630 mm (24.8 in.) to 840 mm (33.1 in.) PCI expansion unit: 630 mm (24.8 in.) to 840 mm (33.1 in.)	C
Dimension between rear door (inside) and rear column	SPARC M10-4: At least 158 mm (6.2 in.) PCI expansion unit: At least 158 mm (6.2 in.)	D
Front panel mounting space of chassis	At least 483 mm (19.0 in.)	E

Table 2-3 Third-party rack checklist *(continued)*

Description	Condition	Letter in figure
Distance between left and right chassis attachment holes (common to front and rear columns)	465 mm (18.3 in.)	F
Distance between left and right columns (common to front and rear columns)	At least 450 mm (17.7 in.)	G
Column thickness	2 mm (0.08 in.) to 2.5 mm (0.1 in.)	H
Structures other than columns	Rack has no structures between front and rear columns	I
Cable hatch	Rack has hatch on bottom surface, rear door, or elsewhere	J
Area of door vent openings	Front door: At least 73 % of door area Rear door: At least 73 % of door area	K
Size of chassis attachment holes (common to front and rear columns)	Square hole with sides longer than 9.2 mm (0.36 in.) and not longer than 9.8 mm (0.38 in.) (*1) or M6 screw hole	L
Vertical pitch of chassis attachment holes (common to front and rear columns)	EIA standards, universal pitch	M
Door opening angle	Door opens to 130°	--
Strength	Rack has necessary strength/load capacity for mounting chassis	--
Grounding	Rack and units can be grounded	--
Toppling prevention measures	Rack can be prevented from toppling over	--
Earthquake resistance measures	Earthquake resistance measures can be implemented for rack	--

*1 If the SPARC M10-4 and the PCI expansion unit have square holes with sides of 9.0 mm (0.35 in.) to 9.2 mm (0.36 in.), a separate rack mount kit must be ordered.

- **Mounting on the lowest shelf of the rack**
  For the SPARC M10-4, the cable support at the chassis rear moves underneath the chassis during maintenance, so do not mount the chassis on the lowest shelf (1U) of the rack.
- **Other conditions**
  In addition to structural conditions, the following condition must be taken into consideration.
  - Install the rack such that the temperature inside the rack meets the temperature conditions for cooling the chassis when mounted in the rack. For details, see "2.5 Checking Environmental Conditions." Particularly, make sure that exhaust from the chassis does not re-enter the chassis through the air intakes. This requires measures such as covering the front and rear of empty spaces inside the rack.

2.4.2 Installation area for a general rack

Service areas

Service area requirements vary depending on the rack used.
When mounting each chassis in the designated rack, see the examples of service areas in Figure 2-3 and Figure 2-4. The rack width depends on the rack used.
When using a rack other than the designated rack, see the manual for the rack used.

Figure 2-3 Example of service areas for the SPARC M10-4 (top view)

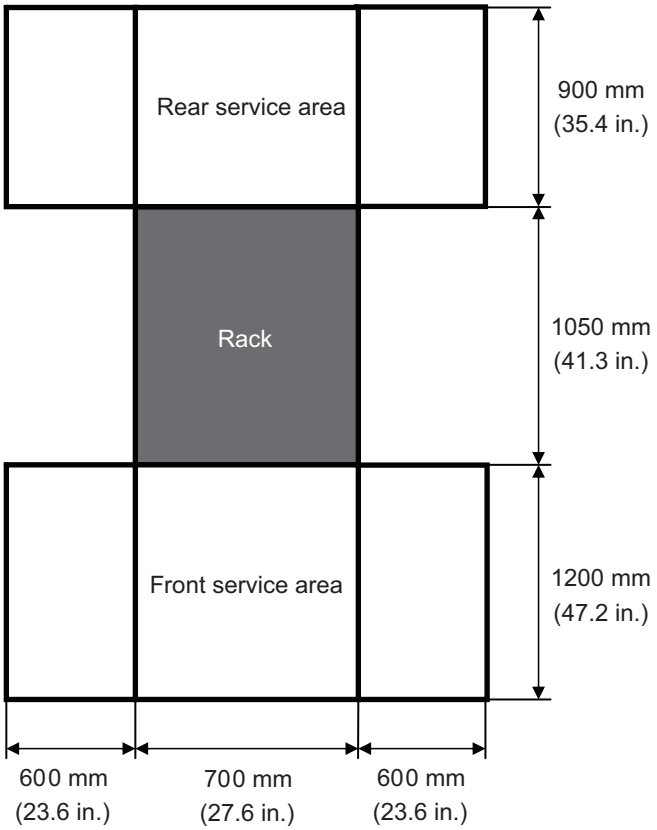
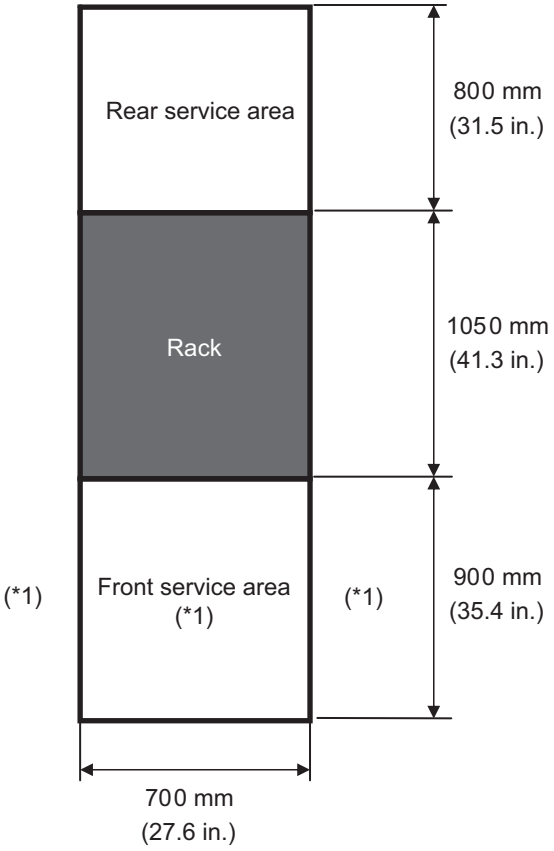


Figure 2-4 Example of service areas for the PCI expansion unit (top view)



*1 To mount a chassis on the rack, an area with a depth of 1,200 mm (47.2 in.) is required in front of the rack, and areas with a width of 600 mm (23.6 in.) are required on both the left and right sides of the front service area. If there is a possibility that a chassis will be added later, secure an area with a depth of 1,200 mm (47.2 in.) in front of the rack and areas with a width of 600 mm (23.6 in.) on both the left and right sides of the front service area.

2.5 Checking Environmental Conditions

This section describes the environmental conditions for the SPARC M10 systems. The server can be installed at locations that meet the environmental conditions listed in Table 2-4.

Note - When designing environmental control systems such as air conditioning facilities, confirm that the air taken in by each chassis meets the requirements specified in this section.

The environmental conditions described in Table 2-4 reflect test results from each chassis. The optimal conditions represent the recommended environment in operation. The component failure rate may increase substantially when the system operates for prolonged periods in an environment that is at or close to the operation-time (in operation) limit values, or when the system is installed in an environment that is at or close to the non-operation-time (not in operation) limit values. To minimize the occurrence of system downtime due to a component failure, set the temperature and humidity within the optimal condition range.

The following conditions must be met to prevent overheating:

- Neither warm air nor hot air blows directly on the front of the rack
- Neither warm air nor hot air blows directly on the front panel of any chassis

Table 2-4 Environmental conditions

Item	In operation	Not in operation	Optimal condition
Ambient temperature	5°C to 35°C 41°F to 95°F	- When unpacked 0°C to 50°C (32°F to 122°F) - When still packed -25°C to 60°C (-4°F to 140°F)	21°C to 23°C 70°F to 74°F
Relative humidity (*1)	- When installed in server room 20% RH to 80% RH - When installed in office (*2) 20% RH to 80% RH	- When installed in server room 8% RH to 80% RH - When installed in office (*2) 8% RH to 80% RH	45% RH or higher but less than 50% RH
Maximum wet-bulb temperature	- When installed in server room 26°C (78.8°F) - When installed in office (*2) 29°C (84.2°F)	- When installed in server room 27°C (80.6°F) - When installed in office (*2) 29°C (84.2°F)	
Altitude limit (*3)	0 m to 3,000 m (0 ft. to 10,000 ft.)	0 m to 12,000 m (0 ft. to 40,000 ft.)	

Table 2-4 Environmental conditions *(continued)*

Item	In operation	Not in operation	Optimal condition
Temperature conditions	- When installed at 0 m to 500 m (0 ft. to 1,640 ft.) 5°C to 35°C (41°F to 95°F) - When installed at 500 m to 1,000 m (1,644 ft. to 3,281 ft.) 5°C to 33°C (41°F to 91.4°F) - When installed at 1,000 m to 1,500 m (3,284 ft. to 4,921 ft.) 5°C to 31°C (41°F to 87.8°F) - When installed at 1,500 m to 3,000 m (4,925 ft. to 9,843 ft.) 5°C to 29°C (41°F to 84.2°F)		

*1 No condensation is assumed regardless of temperature and humidity conditions.
*2 Only the PCI expansion unit can be installed in an office. Install the SPARC M10-4 in a dedicated room such as a server room.
*3 All the altitudes indicate heights above sea level.

2.5.1 Ambient temperature

To maintain system reliability and operator comfort, the optimal ambient temperature is 21°C to 23°C (70°F to 74°F). This temperature range makes it easy to maintain the relative humidity. While the system is operating within this range, even a failure of the air conditioning facilities does not cause it to suddenly stop.

2.5.2 Ambient relative humidity

To process data safely, the optimal ambient relative humidity is 45% or higher but less than 50%. The reasons for this are as follows:

- A humidity in the optimum range can protect the system from corrosion issues caused by high humidity
- A humidity in the optimum range means that even a failure of the air conditioning facilities does not cause the system to suddenly stop
- A humidity in the optimum range can prevent failures and malfunctions caused by electrostatic discharge

A relative humidity that is too low is conducive to generating a static electricity discharge. The resulting intermittent interference may cause a failure or temporary malfunction.

Electrostatic discharge is more likely to occur and harder to eliminate at locations with a relative humidity below 35%. Electrostatic discharge becomes a critical issue when the relative humidity falls below 30%. The set optimal relative humidity range

is stricter than the guidelines applied to indoor locations with more relaxed environmental conditions such as general office environments. However, if the server is installed in a server room, this condition is not difficult to meet because server rooms utilize highly efficient moisture-proof materials and have fewer ventilation cycles.

2.5.3 Contaminant conditions

Table 2-5 provides the acceptable reference values for contaminants with regard to the SPARC M10 systems.

Table 2-5 Acceptable reference values for contaminants

Contaminant	Acceptable reference value
Hydrogen sulfide (H2S)	7.1 ppb or less
Sulfurous acid gas (sulfur oxide) (SO2)	37 ppb or less
Hydrogen chloride (HCI)	6.6 ppb or less
Chlorine (CI2)	3.4 ppb or less
Hydrogen fluoride (HF)	3.6 ppb or less
Nitrogen dioxide (nitrogen oxide) (NO2)	52 ppb or less
Ammonia (NH3)	420 ppb or less
Ozone (O3)	5 ppb or less
Oil vapor	0.2 mg/m^3 or less
Dust	0.15 mg/m^3 or less
Seawater (salt damage)	Do not install out at sea or within 500 m (1,640.4 ft.) of the seashore. (However, this does not apply if air conditioning facilities do not use outside air.)

2.6 Checking Acoustic Noise Levels

Table 2-6 provides the acoustic noise levels of the SPARC M10-4.

The acoustic noise levels provided in Table 2-6 are measured based on the following conditions.

Measurement environment: ISO 7779 compliant
Ambient temperature: 23°C

Table 2-6 Acoustic noise levels of the SPARC M10-4

Acoustic noise level	CPU type	CPU configuration	In operation	When idle
Sound power level	SPARC64 X	2 CPUs	7.5 B	6.9 B
		4 CPUs	8.2 B	6.9 B
	SPARC64 X+	2 CPUs	8.5 B	7.0 B
		4 CPUs	9.0 B	7.0 B
Sound pressure level	SPARC64 X	2 CPUs	58 dB	56 dB
		4 CPUs	64 dB	56 dB
	SPARC64 X+	2 CPUs	67 dB	57 dB
		4 CPUs	74 dB	57 dB

2.7 Checking Cooling Conditions

This section describes the cooling conditions for the SPARC M10 systems. Note the following conditions when installing the system:

- The air conditioning facilities for the room are sufficient to meet the cooling conditions of the entire system
- The air conditioning facilities have control functions for preventing excessive temperature changes

Table 2-7 lists the cooling conditions for each chassis.

Table 2-7 Cooling conditions

Configuration	Input voltage	CPU type	Region	Maximum heat dissipation	Maximum exhaust airflow
SPARC M10-4	200 to 240 VAC	SPARC64 X	Japan	10,410 kJ/hr (9,864 BTU/hr)	17.1 m^3/min
			Outside Japan	9,954 kJ/hr (9,434 BTU/hr)	
		SPARC64 X+	Japan	11,550 kJ/hr (10,950 BTU/hr)	18.7 m^3/min
			Outside Japan	11,100 kJ/hr (10,520 BTU/hr)	
PCI expansion unit	AC100 - 120 V	-	-	1,005 kJ/hr (953 BTU/hr)	4.5 m^3/min
	200 to 240 VAC	-	-	972 kJ/hr (921 BTU/hr)	

The SPARC M10 systems are designed to function in an environment with natural convection airflow.

The following requirements must be followed to meet the environmental specifications.

- Ensuring sufficient airflow for the entire system
  Each chassis is equipped with a cooling function for front-to-rear cooling. Each chassis has air vents on the front. Exhaust is expelled from the rear of each chassis. The SPARC M10 systems use internal fans whose airflow reaches the maximum exhaust airflow shown in Table 2-7 under normal operating conditions.

  Example: 17.1 m^3 (603.8 $ft.^3$) per minute for each SPARC M10-4 unit

- Ensuring that temperature at the intake part of each chassis does not exceed the limit value
  Other devices mounted in the rack must not cause the temperature at the intake part of any chassis to exceed the limit value. This limit value in environmental conditions assumes that each chassis operates with the rack door closed.

2.8 Checking the Power Input Type

This section describes the power input types that can be used with the SPARC M10 systems. To prevent serious accidents, confirm that the power supply facilities can supply sufficient redundant power to the system.

The server can use the following power input types:

- Redundant configuration of power supply units
- Dual power feed
- Three-phase power feed
- Uninterruptible power supply (UPS) connection (optional)

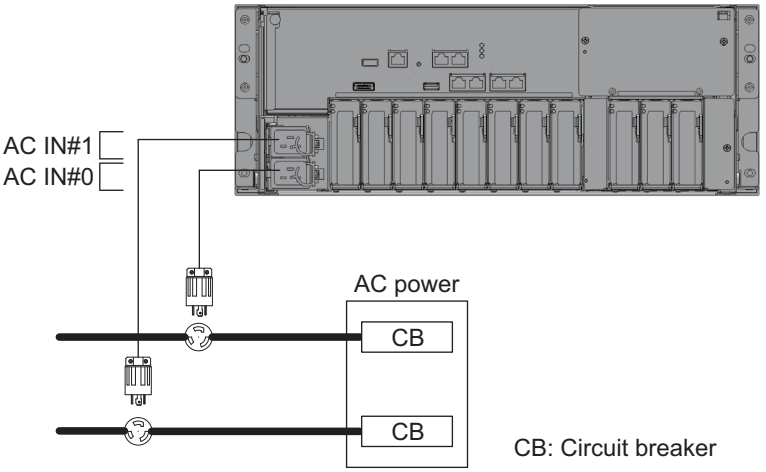
2.8.1 Redundant configuration of power supply units

Each chassis has power supply units in a redundant configuration as standard. If a failure occurs in one power supply unit, the system can still continue to operate with the other power supply unit. However, if a failure occurs in the external power supply, the system stops.

Figure 2-5 shows a power supply system with redundant power supply connections.

When connecting the power cords to the same input power supply, make sure to connect each power cord to the connection destination in a one-to-one manner.

Figure 2-5 Power supply system with redundant power supply connections



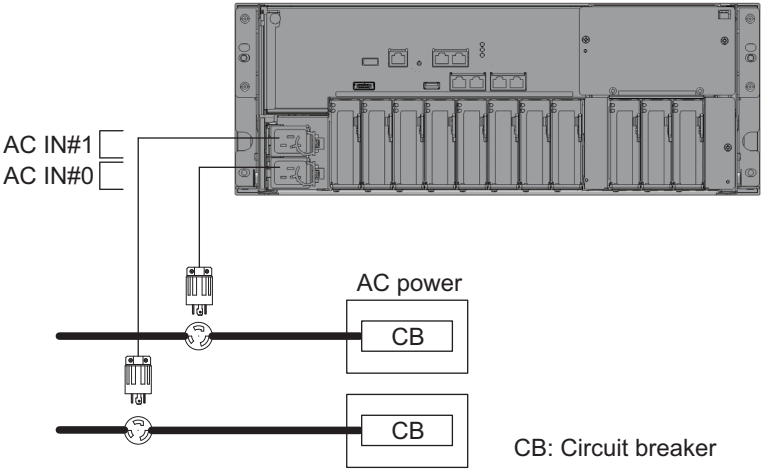
2.8.2 Dual power feed

Dual power feed is an option for receiving power feeds from two external power supplies. If a failure occurs in one external power supply, the system can still continue to operate with the external power supply on the other system.

Figure 2-6 shows a power supply system with dual power feed.

For dual system connections, connect the power cords to the input power supplies on separate systems.

Figure 2-6 Power supply system with dual power feed



2.8.3 Three-phase power feed

Three-phase power feed is a method of receiving power feeds from a three-phase power supply rather than a single-phase power supply.
The customer needs to prepare an external power distribution unit for three-phase power feed for the SPARC M10-4. There are two types of three-phase power feed: three-phase star connection and three-phase delta connection.

Figure 2-7 and Figure 2-8 show power supply systems with three-phase power feed.

Figure 2-7 Power supply system with three-phase power feed (star connection)

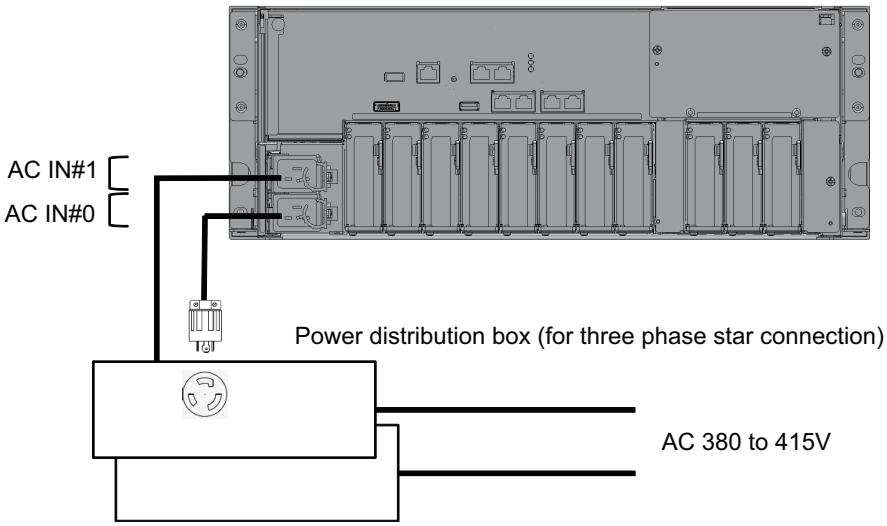
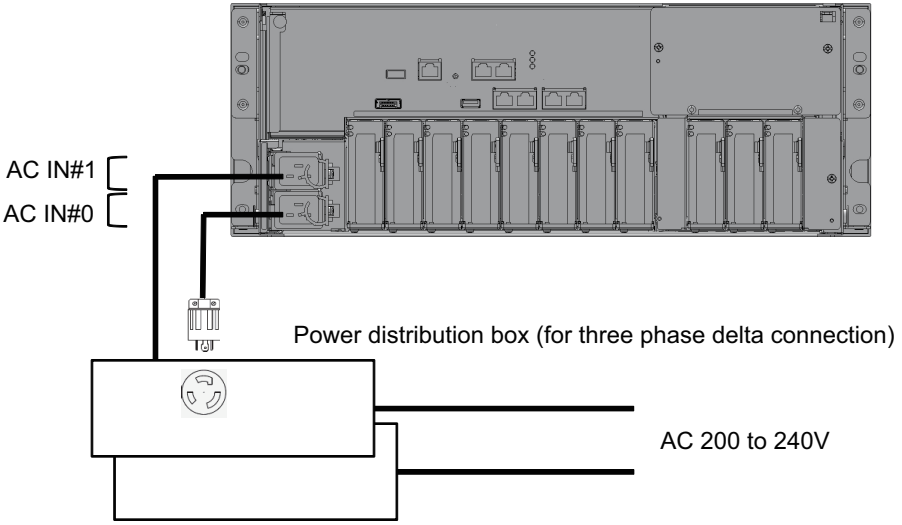


Figure 2-8 Power supply system with three-phase power feed (delta connection)

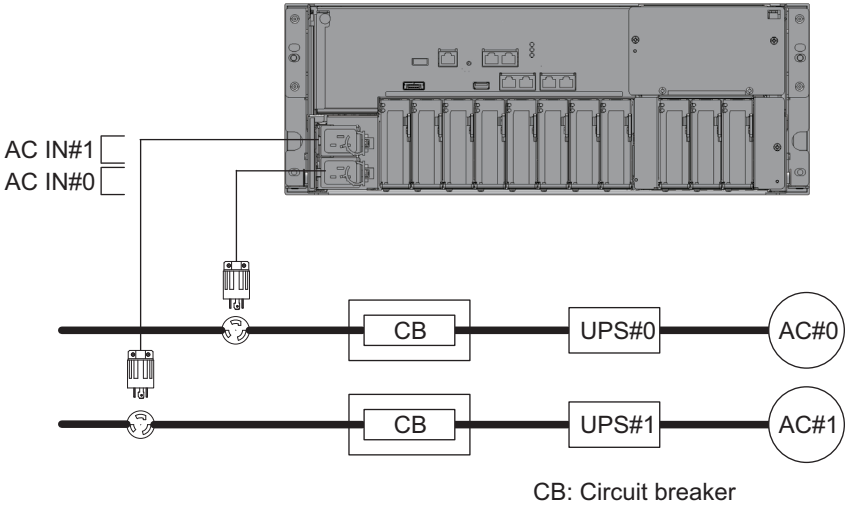


2.8.4 Uninterruptible power supply (UPS) connection (optional)

Using an uninterruptible power supply (UPS) enables the stable supply of electrical power to the system in case of power failure, widespread power outage, etc.

If the customer has ordered UPSs, use a separate UPS for each power supply system. Connect PSU#0 and PSU#1 to the input power supplies of different systems. Figure 2-9 shows a power supply system with three-phase power feed.

Figure 2-9 Power supply system with UPS connections



2.9 Preparing Power Supply Facilities

This section describes the electrical specifications, power cord specifications, facility power requirements, and grounding requirements of the SPARC M10 systems.

To minimize component failure rates, stable power supply such as with a dual power feed or uninterruptible power supply (UPS) must be prepared. The component failure rate is likely to be higher when the system operates in an environment with frequent power outages or unstable power supply than in an environment where the supply of power is stable.

Electrical work and installation must be performed in accordance with the electrical regulations of the region, municipality, or country.

Note - If the system will be used in a region where an appropriate input power outlet is not available, contact a certified electrician. Have the electrician remove the connectors from each power cord and connect the power cord to a dedicated branch circuit. Check the electrical regulations of the region about installation conditions.

2.9.1 Electrical specifications

Table 2-8 and Table 2-9 list the electrical specifications of each chassis.
Memory devices of 64 GB are currently available only in Japan. Separate electrical specifications are shown for Japan and for outside Japan because their maximum

configurations are different.

Note - The values listed in Table 2-8 and Table 2-9 are based on values for the maximum configuration of each chassis. The actual values vary depending on the system configuration.

Table 2-8 Electrical specifications (SPARC M10-4)

Item		Specification	
		CPU type: SPARC64 X	CPU type: SPARC64 X+
Input voltage		200 to 240 VAC	
Number of power cords		2 (1 for each PSU)	
Power cord length		Maximum length of 3.0 m (9.8 ft.)	
Redundancy		1+1 redundant configuration	
Frequency		50 Hz/60 Hz, single phase	
Rated current (*1)	Japan Outside Japan	14.8 A 14.1 A	16.0 A 15.7 A
Maximum power consumption	Japan Outside Japan	2,891 W 2,765 W	3,208 W 3,082 W
Apparent power	Japan Outside Japan	2,950 VA 2,821 VA	3,273 VA 3,145 VA
Rush current (*2)		45 A peak or less	
Leakage current (*2)		1.75 mA	

*1 The current that flows through each power cord in a redundant configuration is half the value listed in Table 2-8.
*2 The value is per power cord.

Table 2-9 Electrical specifications (PCI expansion unit)

Item	Specification	
	Input voltage of 100 to 120 VAC	Input voltage of 200 to 240 VAC
Number of power cords	2 (1 for each PSU)	2 (1 for each PSU)
Power cord length	Maximum length of 3.0 m (9.8 ft.)	Maximum length of 3.0 m (9.8 ft.)
Redundancy	1+1 redundant configuration	1+1 redundant configuration
Frequency	50 Hz/60 Hz, single phase	50 Hz/60 Hz, single phase
Rated current (*1)	4.80 A	2.40 A
Maximum power consumption	279 W	270 W
Apparent power	284 VA	276 VA

Table 2-9 Electrical specifications (PCI expansion unit) *(continued)*

Item	Specification	
	Input voltage of 100 to 120 VAC	Input voltage of 200 to 240 VAC
Rush current (*2)	40 A peak or less	40 A peak or less
Leakage current (*2)	1.75 mA	1.75 mA

*1 The current that flows through each power cord in a redundant configuration is half the value listed in Table 2-9.
*2 The value is per power cord.

2.9.2 Power cord specifications

Table 2-10 and Table 2-11 list the power cords and connector shape for each chassis.

Table 2-10 Power cords and connector shape (SPARC M10-4)

Destination	Power cord type	Connector shape
Japan	IEC60320-C20 250V 16A NEMA L6-20P 250V 20A	IEC 60320-C19
North America	IEC60320-C20 250V 16A NEMA L6-20P 250V 20A IEC60309 250V 16A	
South America	IEC60309 250V 16A	
China	IEC60309 250V 16A	
Hong Kong	IEC60309 250V 16A	
Taiwan	NEMA L6-20P 250V 20A	
Korea	NEMA L6-20P 250V 20A	
India	IS1293 250V 16A	
Other countries	IEC60309 250V 16A	

Table 2-11 Power cords and connector shape (PCI expansion unit)

Destination	Power cord type	Connector shape
Japan	NEMA 5-15P 125V 15A NEMA L6-15P 250V 15A	IEC 60320-C13
North America	NEMA 5-15P 125V 15A NEMA L6-15P 250V 15A IEC60320-C14 250V 10A	
South America	IRAM2073 250V 10A NBR14136 250V 10A	
China	GB2099.1 250V 10A	
Hong Kong	BSI363A 250V 10A	

Table 2-11 Power cords and connector shape (PCI expansion unit) *(continued)*

Destination	Power cord type	Connector shape
Taiwan	CNS10917 250V 10A	
Korea	KSC8305 250V 10A	
India	IS1293 250V 16A	
Other countries	IEC60309 250V 10A IEC60320-C14 250V 10A	

2.9.3 Breaker characteristics

The breaker characteristics for the SPARC M10 systems must be taken into consideration to allow the devices to be used under the right conditions. Use circuit breakers that meet the following special conditions for the distribution panel breakers on the equipment side.

Table 2-12 shows the distribution panel breaker capacity on the equipment side.

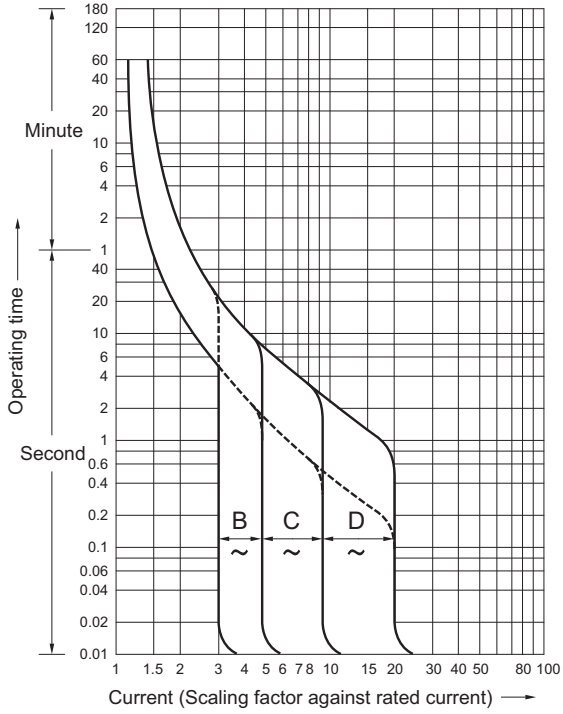
Table 2-12 Distribution panel breaker capacity on the equipment side

Device name	Power supply input	Distribution panel breaker capacity on equipment side	
		For Japan/North America/other countries	For Europe
SPARC M10-4	Single-phase 200 to 240 VAC	20 A	16 A
PCI expansion unit	Single-phase 100 to 120 VAC	10 A	-
	Single-phase 200 to 240 VAC	10 A	10 A

Figure 2-10 shows the cutoff characteristics of the circuit breaker.

Use a breaker with cutoff characteristics that have a Long-time delay type equivalent to cutoff characteristic D (IEC/EN60898 or DIN VDE 0641 part II) shown in Figure 2-10, or one with longer cutoff characteristics.

Figure 2-10 Distribution panel breaker characteristics on the equipment side



2.9.4 Grounding requirements

Ground each chassis appropriately according to the input power type.

- For single-phase input
  The components of each chassis do not include a grounded (three-wire type) power cord. Order the power cords that match the device. Always connect the power cords to grounded power outlets.

  To confirm the type of power supplied by the building, contact the facility administrator or a certified electrician.

- For three-phase input
  No power cord is supplied for three-phase input. Grounded power cords must be connected from the distribution panel directly to the terminal boards of power supply chassis as part of local electrical work.

  Although common grounding is possible with this device, grounding methods vary depending on the building of the installation. When using common grounding, ground devices such that the grounding resistance is equal to or less than 10 ohms. Be sure to have the facility administrator or a certified electrician confirm the grounding method for the building and perform the grounding work.

  Do not connect to an IT power system.

2.10 Checking External Interface Port Specifications

This section provides an overview of the specifications of the external interface ports required in installation and operation of the SPARC M10-4.

You can use the following external interface ports on the SPARC M10-4.

XSCF unit administration port

- Serial port
  The eXtended System Control Facility (XSCF) has one RS-232C-compliant serial port. You can monitor and control the system by connecting the system management terminal to the serial port. Functions that require TCP/IP are not available through the serial port.
- XSCF-LAN port
  In addition to the serial port, the XSCF has two 1000BASE-T LAN ports. You can remotely monitor and control the system by configuring a system control network using a LAN port. There are two types of interfaces available: a command-line interface (XSCF shell) and a browser user interface (XSCF Web).

  Do not make a connection with a network switch or hub until you complete the network setting for the XSCF. If a connection is made before the completion of the setting, devices connecting with others may become unable to communicate, or unauthorized login by a malicious third party to the XSCF of this chassis may be unable to be prevented.
- XSCF USB port (for field engineers)
  Field engineers use this port to download information from the XSCF.

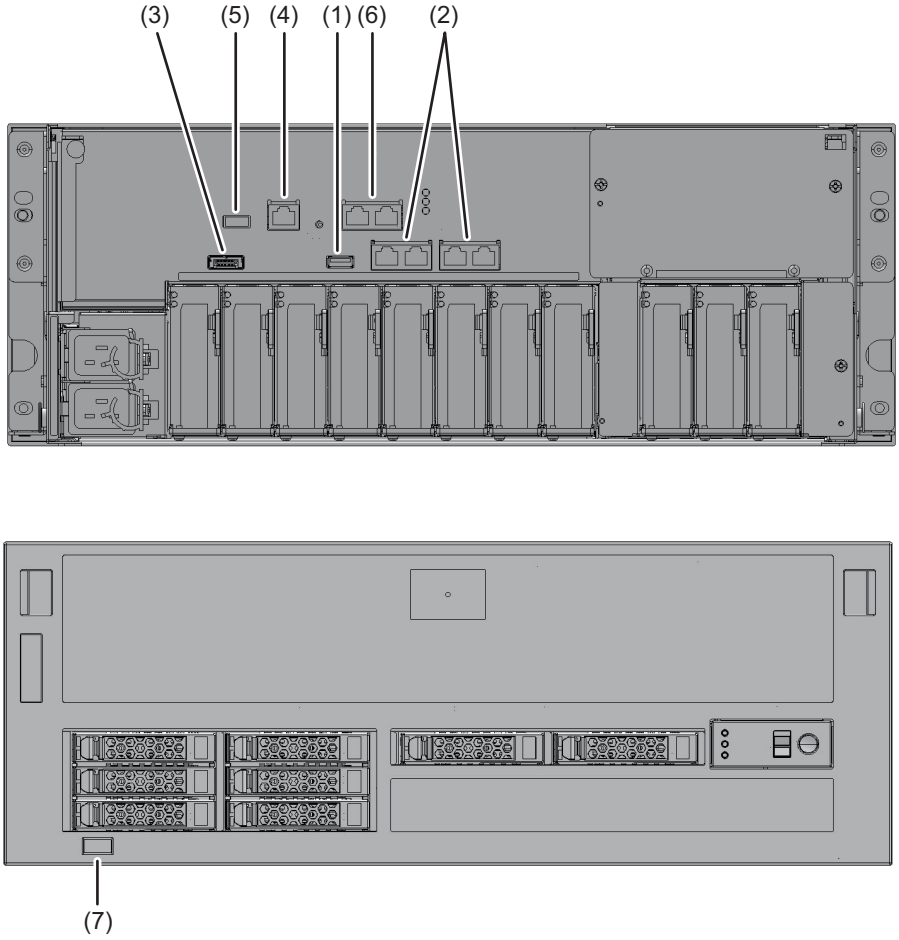
Other unit ports

- GbE LAN port
  The port is used to connect Oracle Solaris to the network. There are four ports.

  Connection to the network is also possible through a LAN card, which is provided by the customer, mounted in a PCI Express (PCIe) slot.
- SAS port
  This port is used to connect an external SAS device.
- USB port
  This is a general-purpose USB port. Use the port to connect an external USB DVD device, etc.

Figure 2-11 shows locations of external interface ports on the SPARC M10-4.

Figure 2-11 Locations of the ports for network connections



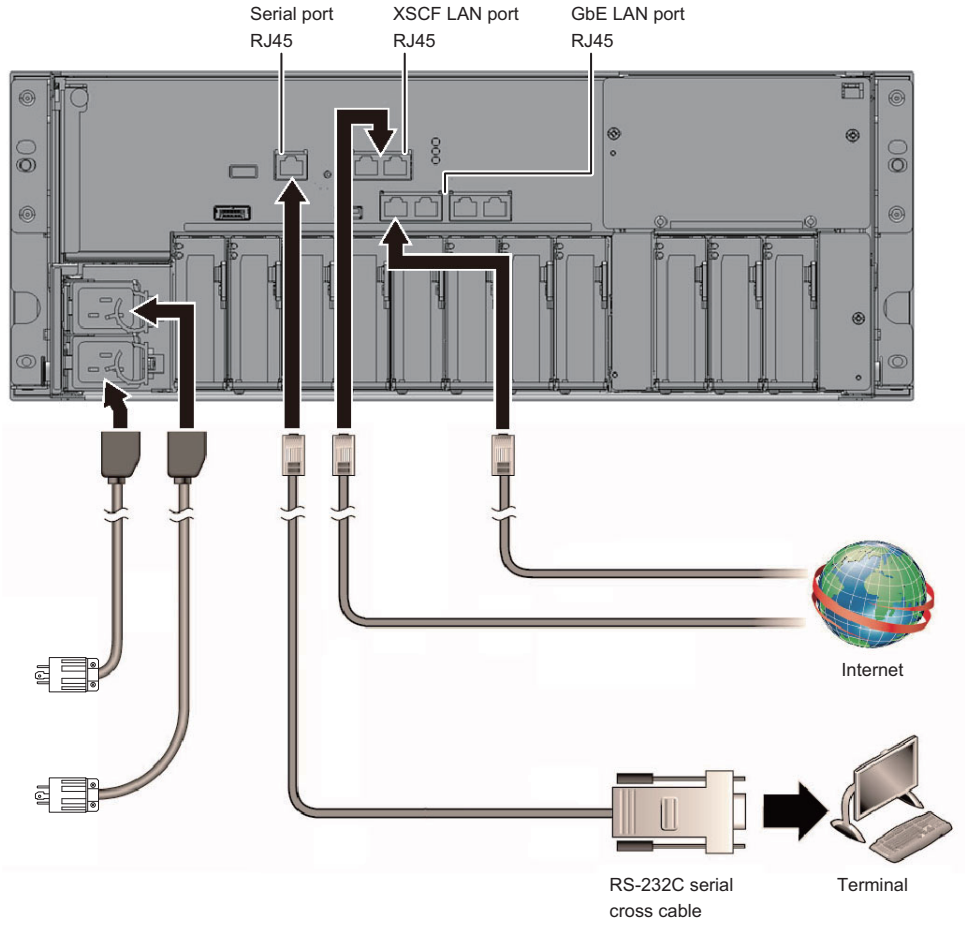
No.	Port	Number on board
1, 7	USB port	2
2	GbE LAN port	4
3	SAS port	1
4	Serial port	1
5	XSCF USB port (for field engineers)	1
6	XSCF-LAN port	2

2.10.1 Network configuration example

Figure 2-12 shows a network configuration example. For details on network

connections, see "1.3 Network Configuration" in the *Fujitsu M10/SPARC M10 Systems System Operation and Administration Guide*.

Figure 2-12 Network configuration example



Chapter 3

Installing the System

This chapter describes the work of preparing for installation, mounting a chassis in a rack, and mounting optional components.

- Preparing the Necessary Tools/Information for Installation
- Confirming Delivered Components
- Mounting the Chassis in a Rack
- Mounting Optional Components

3.1 Preparing the Necessary Tools/ Information for Installation

This section describes the tools and information that are required in installation. Have these prepared before starting installation work.

Table 3-1 List of necessary tools

Name	Use
Phillips screwdriver (#2)	Used to attach cable support brackets and mount optional components
Phillips screwdriver (#3)	Used to attach rails to the rack supporting columns
ESD mat and antistatic wrist strap	Used in the work of mounting optional components
Lifter (hydraulic or mechanical jack)	Used in the work of mounting chassis in racks
System management terminal (ASCII terminal, workstation, terminal server, patch panel connected to terminal server, etc.)	Used to connect to the XSCF and for the work of checking and configuring the XSCF firmware

3.2 Confirming Delivered Components

Here, confirm delivered components by referring to the List of Attachments that comes with the chassis. If any item is missing, incorrect, or damaged, contact the retailer from which the product was purchased or a sales representative.

- Confirming the delivered components of the SPARC M10-4
- Confirming the delivered components of the PCI expansion unit

3.2.1 Confirming the delivered components of the SPARC M10-4

This section describes the confirmation of delivered components of the SPARC M10-4.

1. **Confirm the delivered components by referring to the List of Attachments that comes with the SPARC M10-4.**
   Table 3-2 below is a list of accessories for the SPARC M10-4. The accessories may change without notice.

Table 3-2 Reference: List of accessories for the chassis

Name	Quantity	Remarks
SPARC M10-4 chassis	1	
Fujitsu M10/SPARC M10 Systems Getting Started Guide (*)	1	
Fujitsu M10/SPARC M10 Systems Important Legal and Safety Information	1	
CPU Activation CD-ROM	1	(*1)
Power cord	2	For 200 VAC (*2)
Serial cable	1	
Rack mount kit	1 set	
Cable support	1 set	

*1 The disk contains the CPU Activation key information.
*2 The power cord is ordered separately (required option), so it may not come with the product.

2. **Check for incomplete engagement, incomplete contact, or looseness in the mounting of an internal disk that may have been caused by vibration during transportation or moving of the equipment.**
   Also confirm that the PCI cassette lever is locked at the top.

3.2.2 Confirming the delivered components of the PCI expansion unit

This section describes the confirmation of delivered components of the PCI expansion unit.

1. **Confirm the delivered components by referring to the List of Attachments that comes with the PCI expansion unit.**
   Table 3-3 below is a list of accessories for the PCI expansion unit. The accessories may change without notice.

Table 3-3 Reference: List of accessories for the PCI expansion unit

Name	Quantity	Remarks
PCI expansion unit	1	
Power cord	2	For 100 VAC or 200 VAC (*1)
Core	2	Used when attached to power cord
Rack mount kit	1 set	
Cable support	1 set	
Link cable (optical, 10 m) Link cable (electrical, 3 m)	2	Either of two types of cables is selected (*2)
Management cable	1	(*2)
Link card	1	Card for mounting in the SPARC M10-4 chassis (*3)

*1 The power cord is ordered separately (required option), so it may not come with the product.
*2 If ordered at the same time as the SPARC M10-4, the cable is supplied with the SPARC M10-4.
*3 If ordered at the same time as the SPARC M10-4, the card is shipped mounted in the SPARC M10-4.

2. **Confirm that the PCIe card cassette lever is locked at the bottom.**

3.3 Mounting the Chassis in a Rack

This section describes the procedures for mounting the chassis in an equipment rack. The method of securing the rails differs depending on the rack type. As described in this section, the methods of securing them differ between the racks with supporting columns having angled holes and the racks with supporting columns having M6 screw holes.
For rack details, see the manual for the rack used.
If the chassis has already been mounted in the rack, go to "3.4 Mounting Optional Components."
For the rack mounting procedure of each chassis, see the following sections:

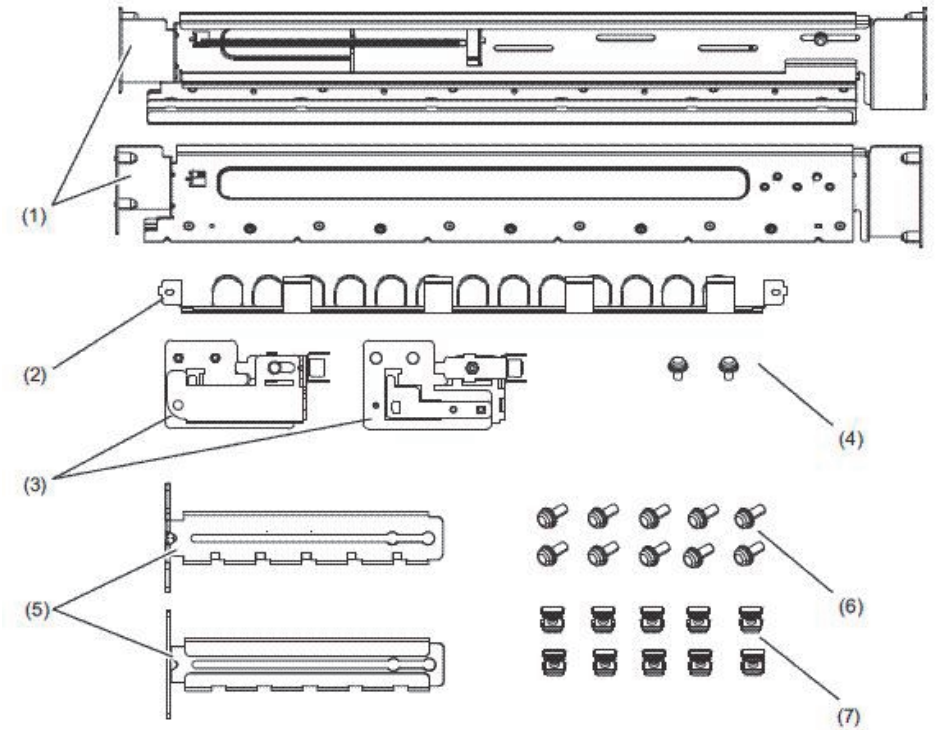
- Mounting the SPARC M10-4 in a rack

3.3.1 Mounting the SPARC M10-4 in a rack

1. **Confirm that the rack mount kit supplied with the SPARC M10-4 is complete.**

Note - The rack mount kit contains two types of cable support: Type-1 and Type-2. The Type-2 cable support is an integrated unit consisting of the parts indicated by numbers 2 to 5 in Figure 3-1. Steps 7 and 11 in the mounting procedure vary depending on the shape of the cable support. Attach the support according to the corresponding steps.

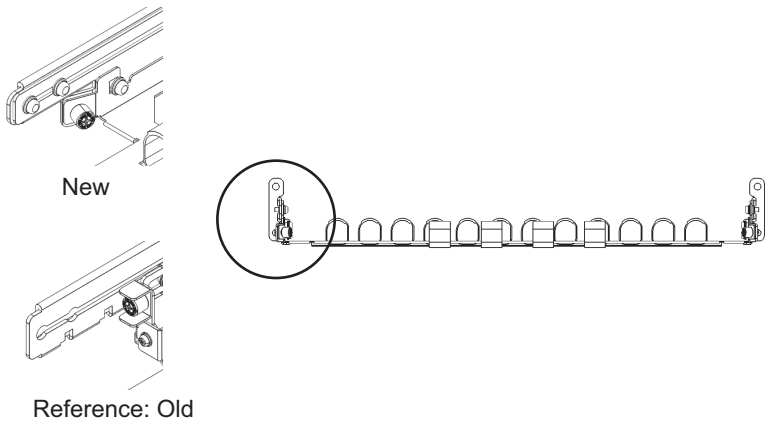
Figure 3-1 Rack mount kit



Number in figure	Name	Quantity	Remarks
1	Rail	2	Bilaterally symmetrical shape
2	Cable support (*1) (*2)	1	
3	Cable support bracket (*2)	2	Bilaterally symmetrical shape
4	M3 screw (*2)	2	
5	Cable support fixing bracket (*2)	2	Bilaterally symmetrical shape
6	M6 screw	10	
7	Cage nut	10	

*1 There are two types of cable support: Type-1 and Type-2. To distinguish between them, see Figure 3-2.
*2 The Type-2 cable support is an integrated unit consisting of these parts.

Figure 3-2 Type-2 cable support



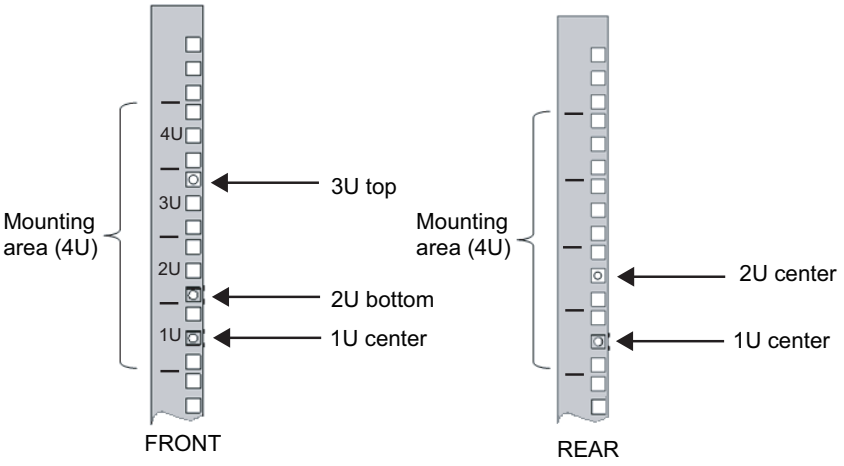
2. **Confirm that the rack is fixed in place to prevent the rack from toppling over.**
3. **Confirm the chassis mounting location in the rack. If necessary, mark the location on the supporting columns.**
4. **Step 4 differs depending on the shape of the supporting column holes of the rack. Perform the work appropriate to the shape of the supporting column holes of the rack.**

- **For racks with supporting columns having angled holes**

  Attach cage nuts to the left and right supporting columns of the rack.

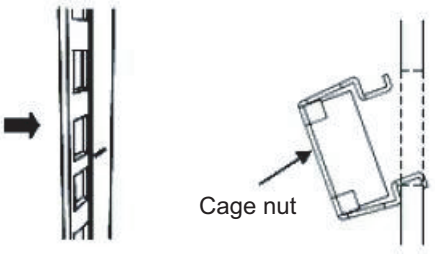
  - Attachment locations in the front supporting columns: (From the bottom) 1U center, 2U bottom, and 3U top
  - Attachment locations in the rear supporting columns: (From the bottom) 1U center and 2U center

Figure 3-3 Cage nut attachment locations in the supporting columns of the rack



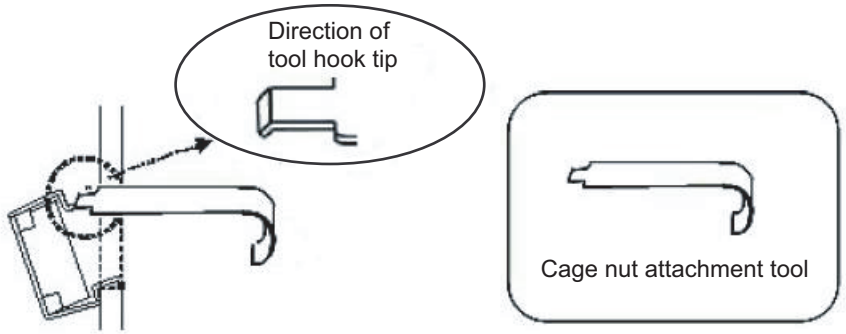
a. Attach cage nuts from the inside of the rack.
Orient the hooks of the cage nut vertically.
Hook the hook at one end of a cage nut into a cage nut attachment hole of the rack.
Figure 3-4 shows a cage nut hooked on the lower part of a hole.

Figure 3-4 Orientation of the hooks of a cage nut



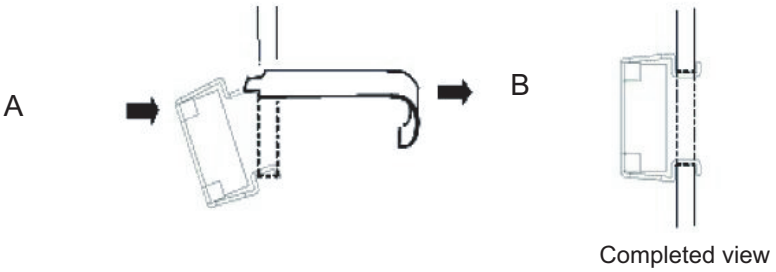
b. Insert the hook at the tip of the supplied cage nut attachment tool through a cage nut attachment hole from the front, and engage it with the hook at the other end of the cage nut.

Figure 3-5 Using the cage nut attachment tool



c. Pull the tool forward to attach the cage nut.
Push in direction A while simultaneously pulling in direction B as shown in Figure 3-6.

Figure 3-6 Attaching a cage nut



- **For supporting columns with M6 screw holes**

  Remove the pins at the front and rear of the rail.

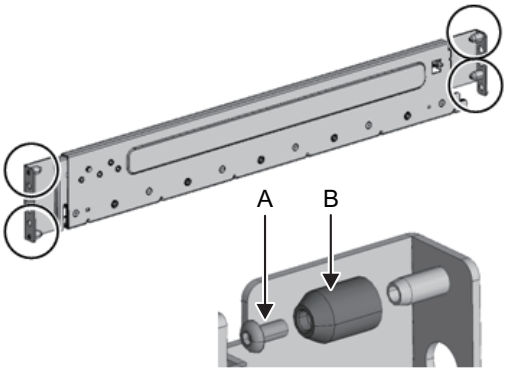
  a. Remove the screw (A in Figure 3-7) securing the rail pin.

  b. Remove the pin (B in Figure 3-7).

  c. Remove pins from the left and right rails in the same manner.

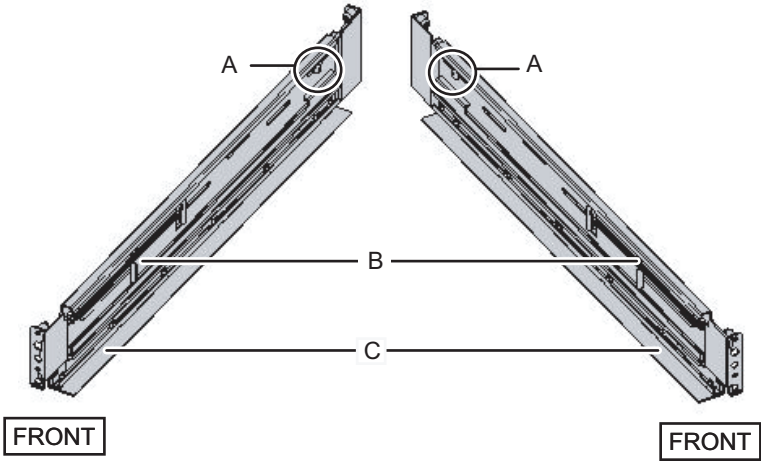
  d. Store the removed pins and screws (eight pins and eight screws in total) for future use when the chassis is moved.

Figure 3-7 Removing a rail pin



5. **Remove the one screw (A in Figure 3-8) from the side of the rail.**
The removed screw will be used in step 8.

Figure 3-8 Screws on the sides of rails



6. **Attach the rail to the rack.**
Attach the rail such that the spring-loaded side (B in Figure 3-8) faces the front and the flange (C in Figure 3-8) faces the bottom.

   a. From the front of the rack, insert the rail protrusions into 2U top and 1U top in the front supporting column of the rack.

   b. Pull out the rail to as far as the depth of the rack.

   c. Insert the rail protrusions into 2U top and 1U bottom in the rear supporting column of the rack.

   d. Secure the rail with one M6 screw to the front supporting column of the rack. The fixing location is 2U bottom.

   e. Attach the other rail in the same manner.

Note - After removing its screw, hold the rail level with both hands. If the rail tilts, it may stretch.

Figure 3-9 Attaching the rail: Locations of protrusions

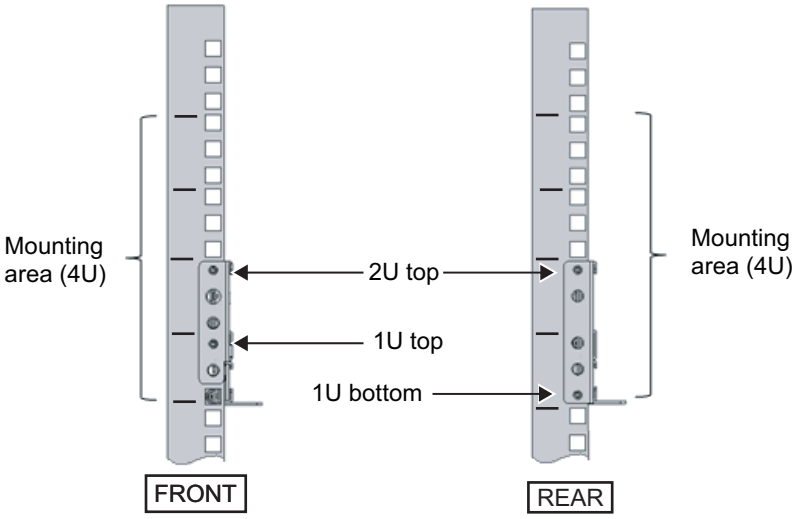
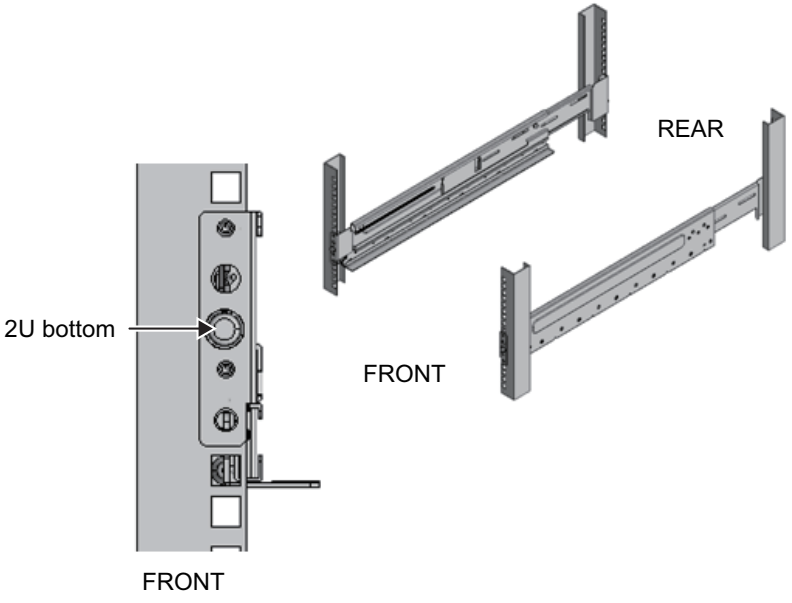


Figure 3-10 Attaching the rail: Fixing location of the screw



7. **Attach the cable support fixing brackets to the rear supporting columns of the rack.**
   For the Type-1 cable support

a. Orient the notches (B in Figure 3-11) on the cable support fixing brackets (A in Figure 3-11) face down.

b. From the rear of the rack, secure the rails and cable support brackets with two M6 screws to the rear supporting columns of the rack.

   The fixing locations are 1U center and 2U center.

c. After attaching the cable support bracket, confirm that the rack door can close.

Note - If the door cannot close because the cable support fixing bracket or the cable support protrudes from the rear of the rack, do not attach the cable support bracket. However, secure the rail to the rack with two M6 screws.

Figure 3-11 Attaching the cable support fixing bracket

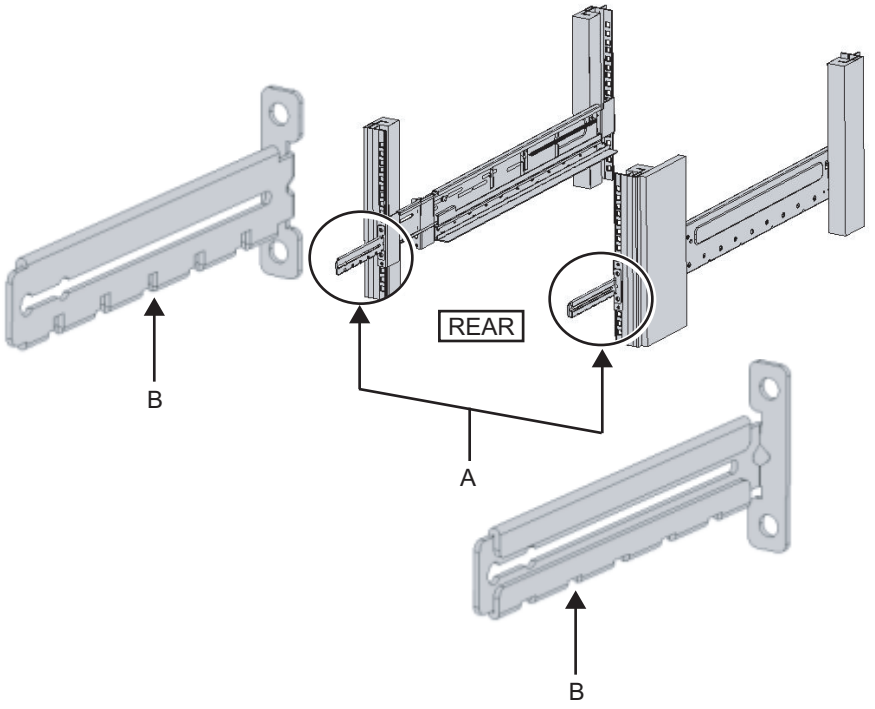
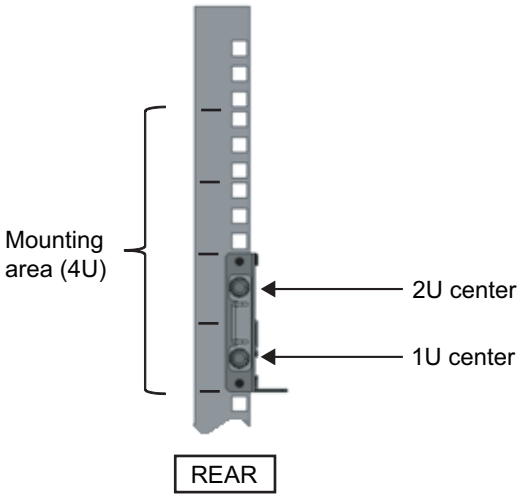


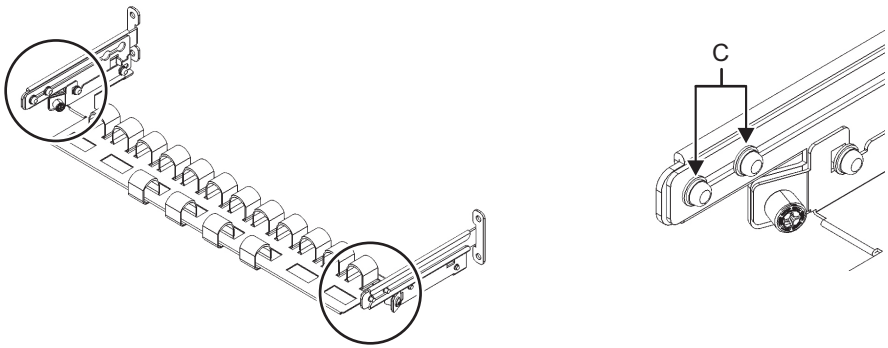
Figure 3-12 Securing the cable support fixing brackets and the rails



For the Type-2 cable support

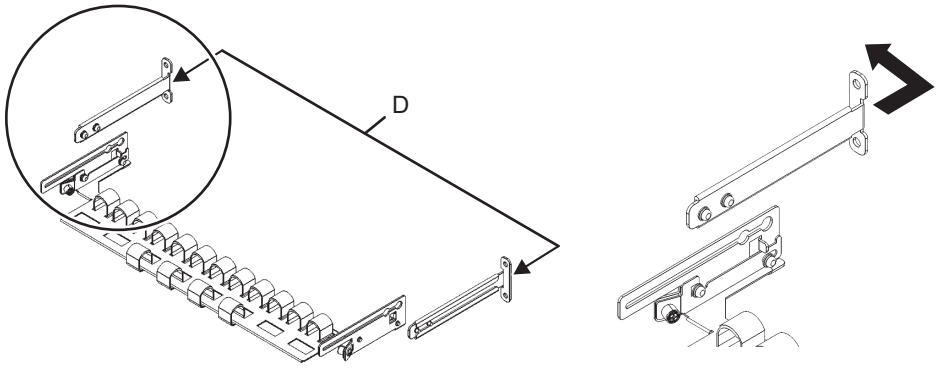
a. Loosen the four screws (C in Figure 3-13) from the inside of the cable support.

Figure 3-13 Removing the cable support fixing brackets (1)



b. Slide the cable support fixing brackets (D in Figure 3-14) to remove them.

Figure 3-14 Removing the cable support fixing brackets (2)



c. From the rear of the rack, secure the rails and cable support fixing brackets (D) with two M6 screws to the rear supporting columns of the rack.
The fixing locations are 1U center and 2U center.

Figure 3-15 Attaching the cable support brackets

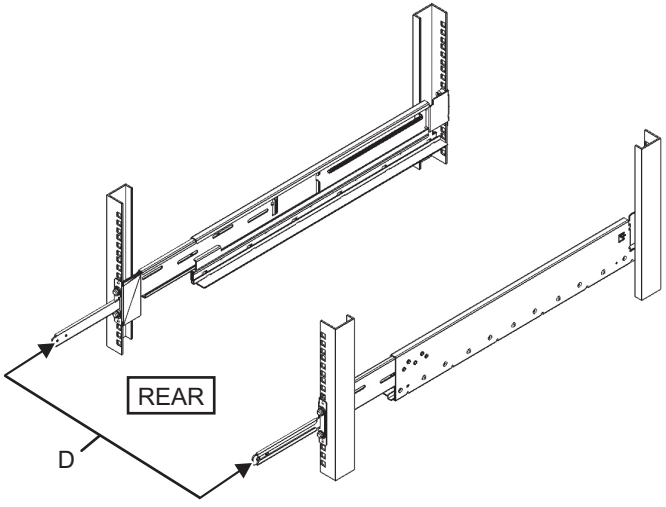
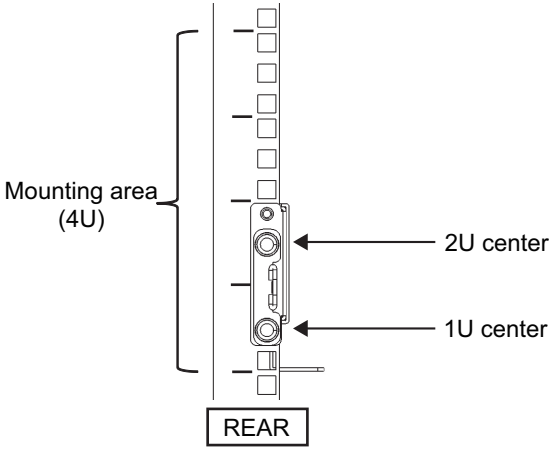


Figure 3-16 Securing the cable support fixing brackets and the rails



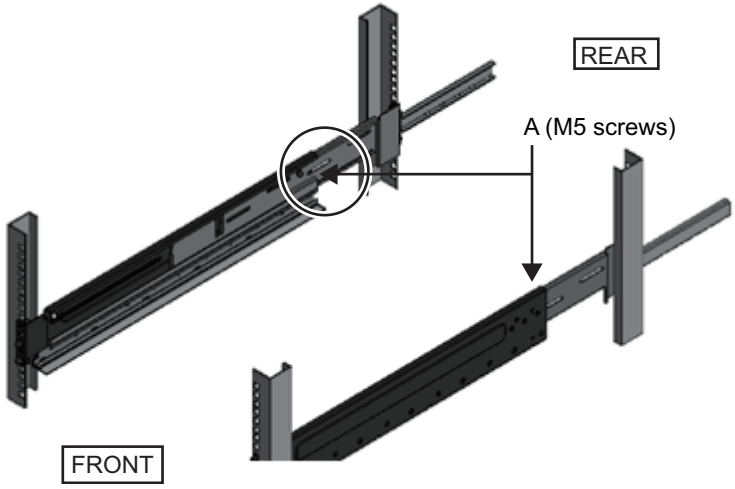
d. After attaching the cable support fixing brackets, confirm that the rack door can close.

Note - If the door cannot close because the cable support fixing bracket or the cable support protrudes from the rear of the rack, do not attach the cable support bracket. However, secure the rail to the rack with two M6 screws.

---

8. **Secure the rail sides by using the screws (M5) removed in step 5 (A in Figure 3-17).**

Figure 3-17 Securing the sides of rails with screws



9. **Mount the chassis in the rack.**
Mount the chassis from the front of the rack.

Note - The SPARC M10-4 weighs 60 kg. Mount the chassis in the rack with four or more people working together. Alternatively, use a lifter such as a hydraulic or mechanical jack.

a. When using a lifter, secure it horizontally.

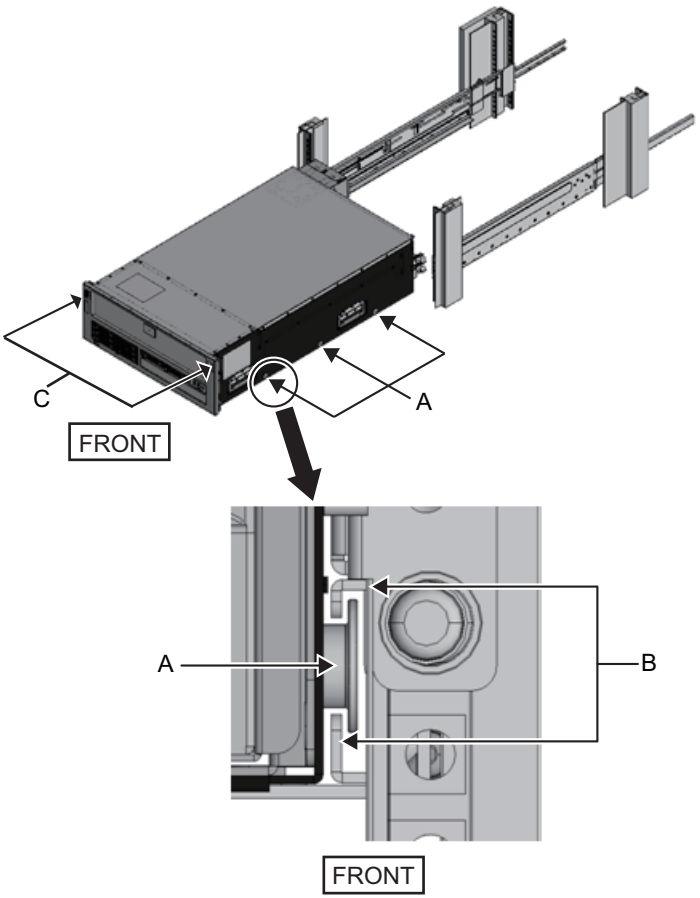
b. Lift the chassis to the mounting location with the lifter or with human force.

c. Put the rear part of the chassis on the flanges of the rails.

d. Slide the chassis into the rack. At this time, store the handle on the side of the chassis. Also, confirm that the guide pins of the chassis (A in Figure 3-18) fit into their rail guides (B in Figure 3-18).

e. Insert the chassis all the way to store it inside the rack.

Figure 3-18 Mounting in the rack



10. **Secure the chassis to the rack.**

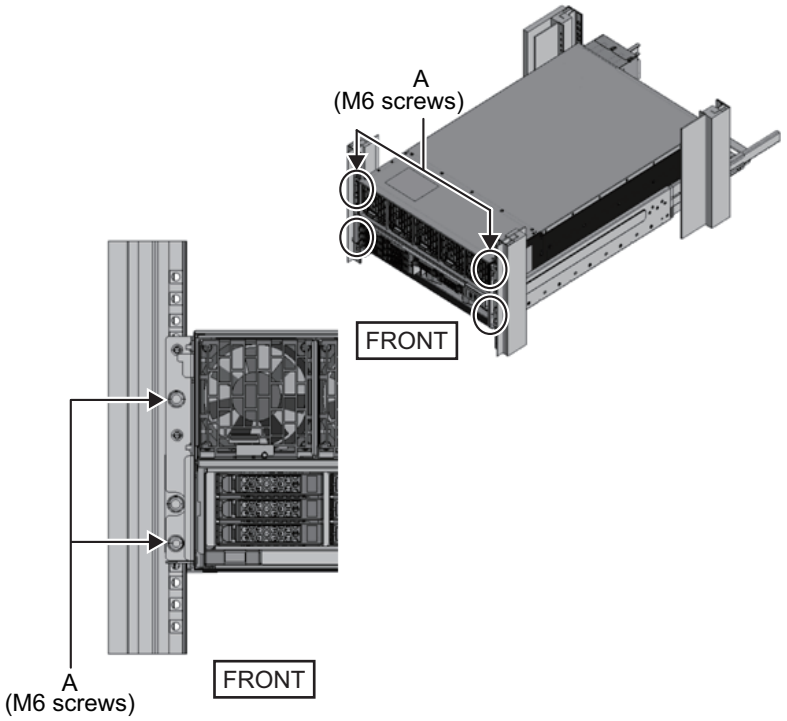
a. Push out the left and right slide locks on the front cover (C in Figure 3-18) to release the locks, and remove the front cover.

b. Tighten the four M6 screws at four locations on the front of the chassis (A in Figure 3-19) to secure it to the rack.

c. Insert the left and right hooks on the inside of the bottom of the front cover into the grooves at the bottom front of the chassis to attach the front cover.

Note - A label with the serial number of the chassis is affixed to the front cover. Be sure to attach the front cover to the corresponding chassis.

Figure 3-19 Securing the chassis



11. **Attach the cable support.**
For the Type-1 cable support

a. From the inside of the cable support fixing bracket, align the two screws in the right cable support bracket with the circular holes at the front of the groove, and attach the screws (A in Figure 3-20).

b. Slide the cable support bracket toward the chassis while holding the latch (B in Figure 3-20) attached to it.

c. Attach the left cable support bracket in the same manner.
At this time, the left and right sides should have been slid the same amount (depth) toward the chassis.

d. Secure the cable support with two M3 screws (C in Figure 3-21).

e. Close the rear door of the rack, and confirm that the cable support does not

interfere. If it interferes, slide the cable support toward the chassis while holding the latches (B in Figure 3-20) of the left and right cable support brackets. The cable support should be in the position nearest the chassis, with the cable support bracket latches engaged.

f. If the cable support interferes with the door even when you slide it toward the chassis as far as possible, remove the cable support.

Figure 3-20 Attaching the cable support brackets

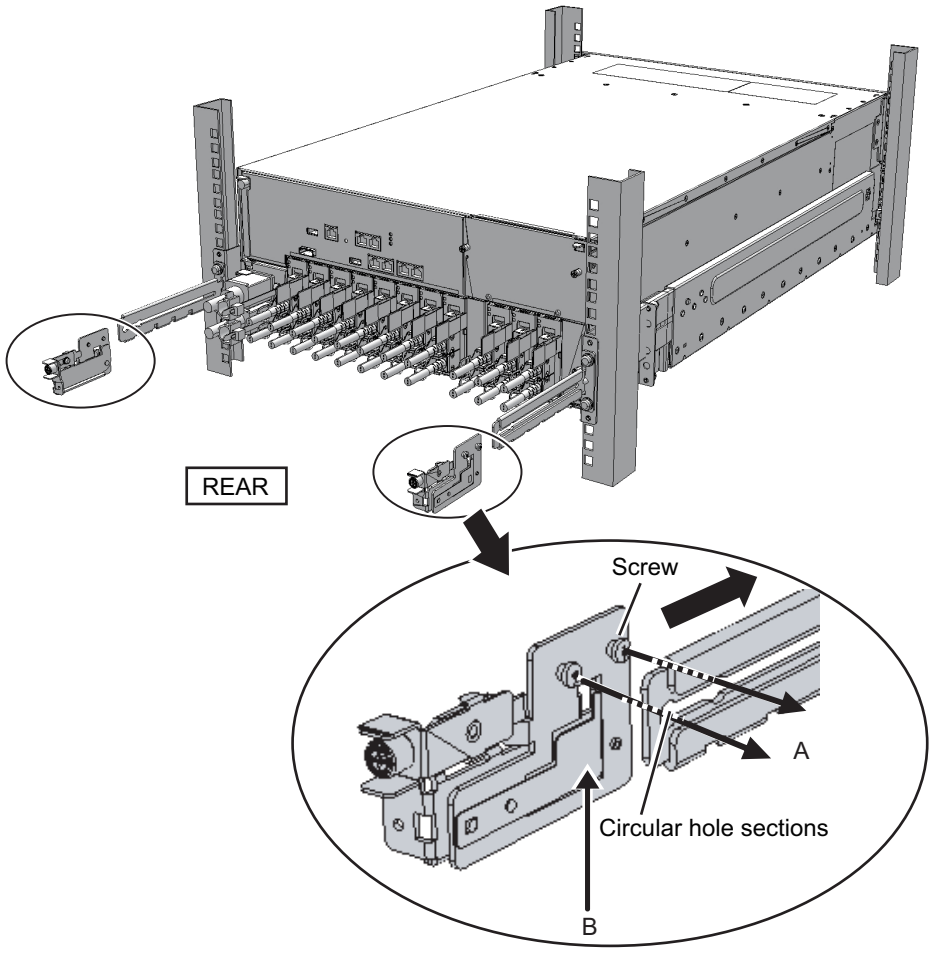
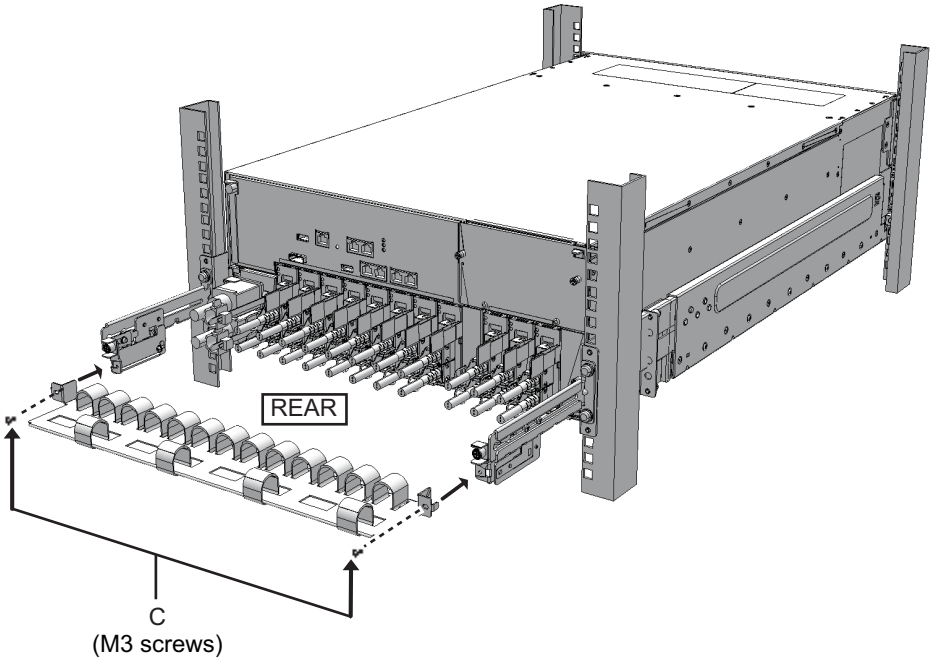


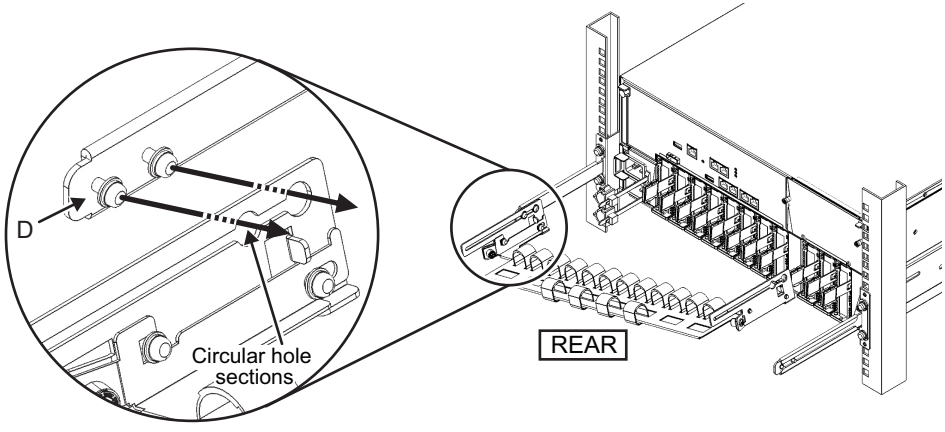
Figure 3-21 Attaching the cable support



For the Type-2 cable support

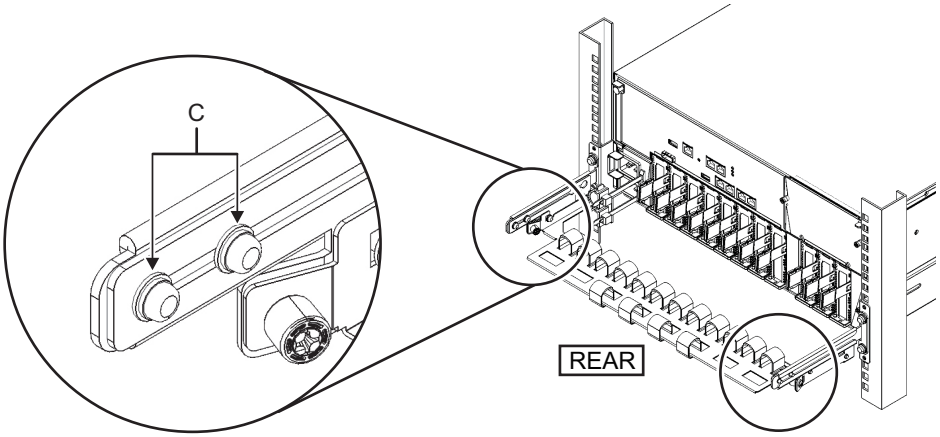
a. Tilt the cable support to align the circular holes at the rear of the groove with the two screws of a cable support fixing bracket (D in Figure 3-22), and attach it. Level the cable support. Then, align the circular holes at the other side with the two screws, and attach it.

Figure 3-22 Attaching the cable support (1)



b. Slide in the cable support all the way, and tighten the four screws (C in Figure 3-23).

Figure 3-23 Attaching the cable support (2)



Note - If the dimension between the front and rear columns of the rack is less than 740 mm, secure the cable support without sliding it in all the way. The fixing location varies depending on the dimension between the front and rear columns of the rack. Based on Figure 3-24, align the scale marks (E in Figure 3-24) (spacing: 10 mm) on the cable support with the screws (F in Figure 3-24) of the fixing brackets to secure the cable support.

Figure 3-24 Attaching the cable support (3)

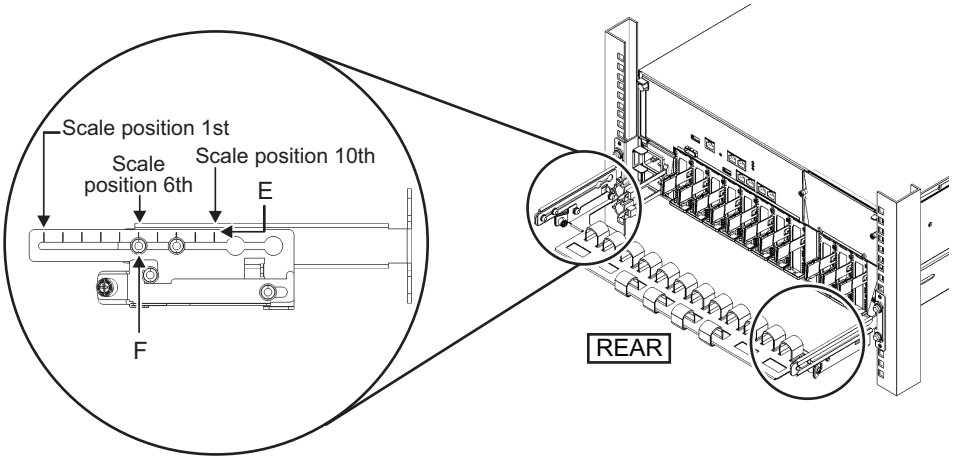


Table 3-4 Dimensions between the front and rear columns and scale positions

Dimension between front and rear columns (mm)	Scale position
740	1st

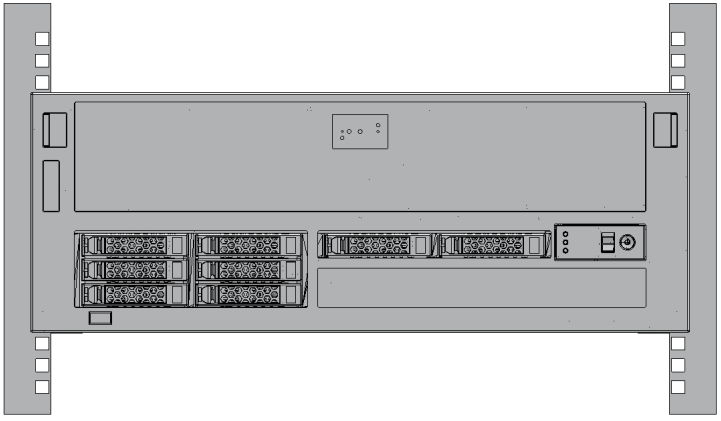
Table 3-4 Dimensions between the front and rear columns and scale positions *(continued)*

Dimension between front and rear columns (mm)	Scale position
730	2nd
720	3rd
710	4th
700	5th
690	6th
680	7th
670	8th
660	9th
650	10th

Note - If you have difficulty laying a thick cable into the cable support, move forward the fixing location of the cable support to make the work easier.

c. Close the rear door of the rack, and confirm that the cable support does not interfere. If the cable support interferes with the rear door, remove the cable support. Even if you remove the cable support, leave the rails secured with the two M6 screws to the rack.

Figure 3-25 Completed SPARC M10-4 configuration



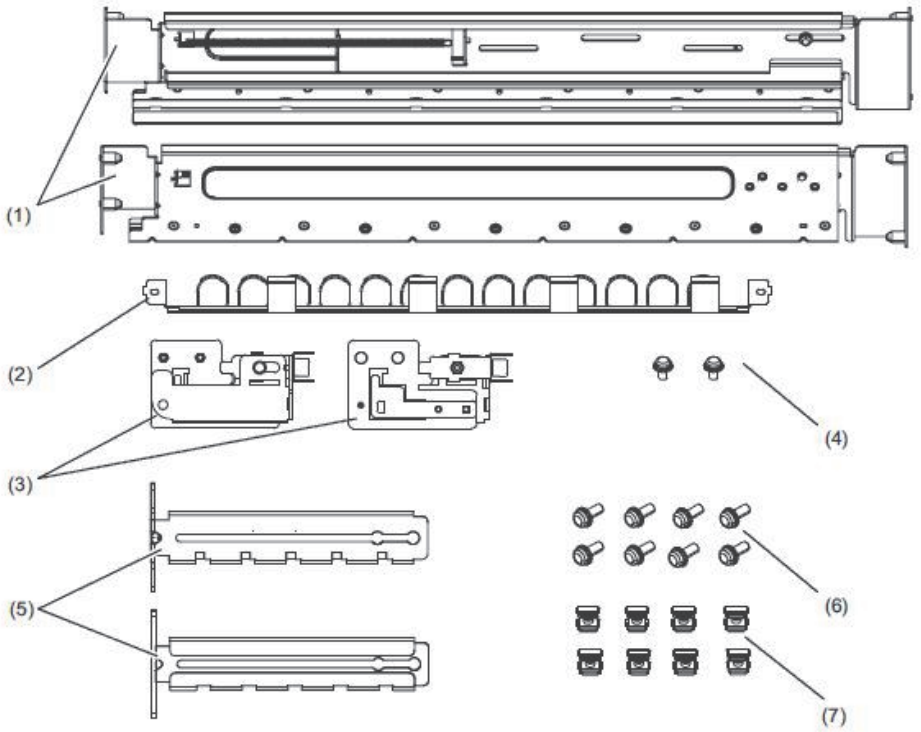
3.3.2 Mounting the PCI expansion unit in a rack

1. **Confirm that the rack mount kit supplied with the PCI expansion unit is complete.**

Note - The rack mount kit contains two types of cable support: Type-1 and Type-2. To distinguish the Type-2 cable support, see Figure 3-27. The Type-2 cable support is an integrated unit consisting of the parts indicated by numbers 2 to 5 in Figure 3-26. Steps 6 and 10 in the mounting procedure vary depending on the shape of the cable support. Attach the support according to the corresponding steps.

Note - The rack mount kit contains two types of rails: Type-1 and Type-2. To distinguish the Type-2 rail, see Figure 3-28. The mounting procedure varies depending on the shape of the rail. The text describes corresponding procedures, so attach the rail according to the relevant procedure.

Figure 3-26 Rack mount kit



Number in figure	Name	Quantity	Remarks
1	Rail	2	Bilaterally symmetrical shape
2	Cable support (*1) (*2)	1	
3	Cable support bracket (*2)	2	Bilaterally symmetrical shape
4	M3 screw (*2)	2	
5	Cable support fixing bracket (*2)	2	Bilaterally symmetrical shape
6	M6 screw	10	
7	Cage nut	10	

*1 There are two types of cable support: Type-1 and Type-2. To distinguish between them, see Figure 3-27.
*2 The Type-2 cable support is an integrated unit consisting of these parts.

Figure 3-27 Type-2 cable support

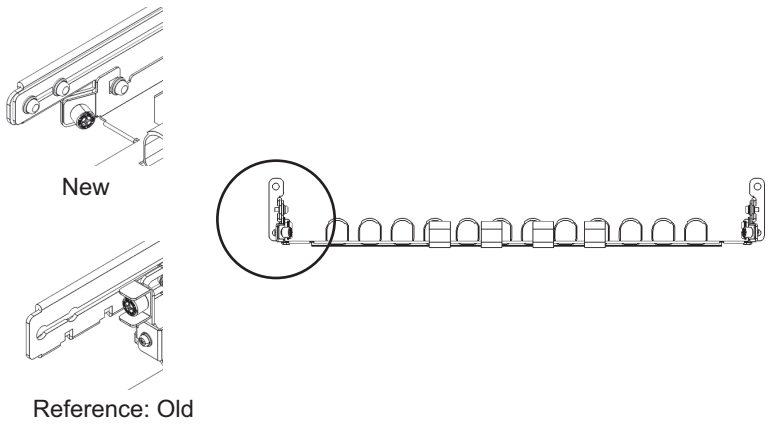
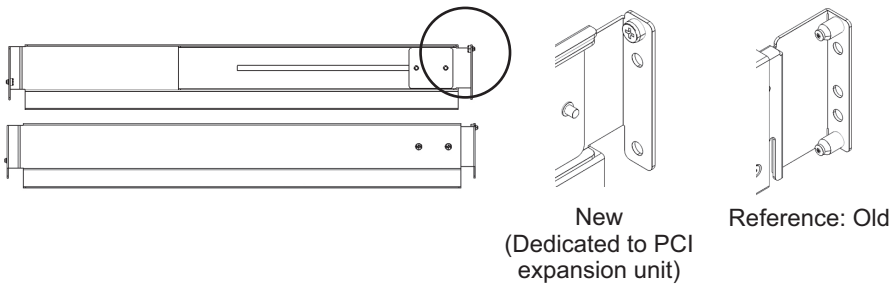


Figure 3-28 Type-2 rail



2. **Confirm that the rack is fixed in place to prevent the rack from toppling over.**

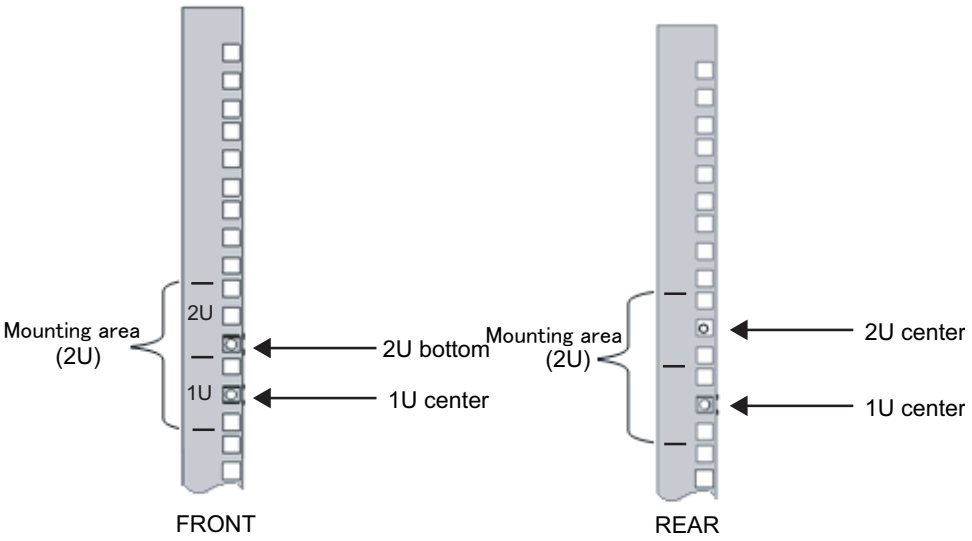
3. **Step 3 differs depending on the shape of the supporting column holes of the rack. Perform the work appropriate to the shape of the supporting column holes of the rack.**

- **For racks with supporting columns having angled holes**

  Attach cage nuts to the left and right supporting columns of the rack.

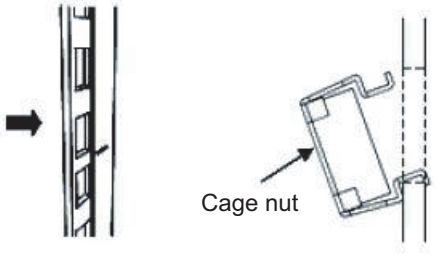
  - Attachment locations in the front supporting columns: (From the bottom) 1U center and 2U bottom
  - Attachment locations in the rear supporting columns: (From the bottom) 1U center and 2U center

Figure 3-29 Cage nut attachment locations in the supporting columns of the rack



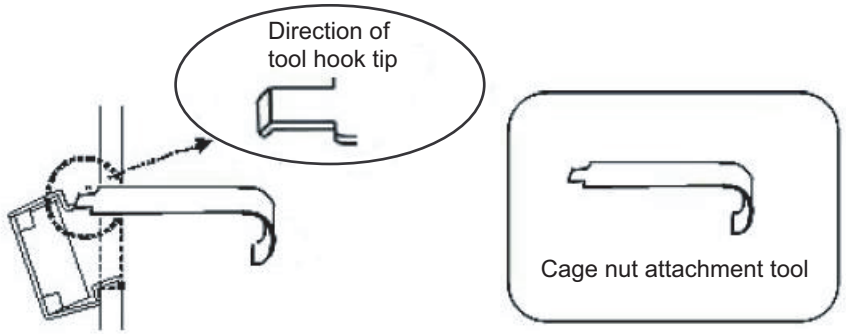
a. Attach cage nuts from the inside of the rack.
   Orient the hooks of the cage nut vertically.
   Hook the hook at one end of a cage nut into a cage nut attachment hole of the rack.
   Figure 3-30 shows a cage nut hooked on the lower part of a hole.

Figure 3-30 Orientation of the hooks of a cage nut



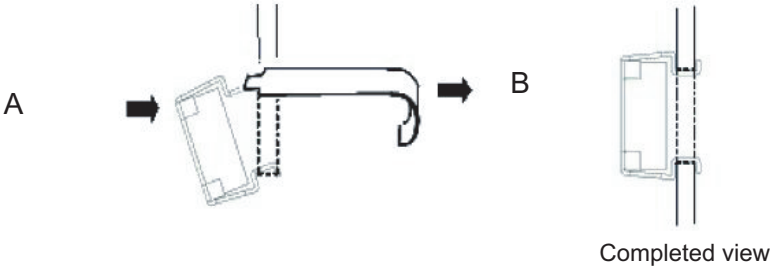
b. Insert the hook at the tip of the supplied cage nut attachment tool through a cage nut attachment hole from the front, and engage it with the hook at the other end of the cage nut.

Figure 3-31 Using the cage nut attachment tool



c. Pull the tool forward to attach the cage nut.
Push in direction A while simultaneously pulling in direction B as shown in Figure 3-32.

Figure 3-32 Attaching a cage nut



- **For supporting columns with M6 screw holes**

  For the Type-1 rail

  Remove the pins at the front and rear of the rail.

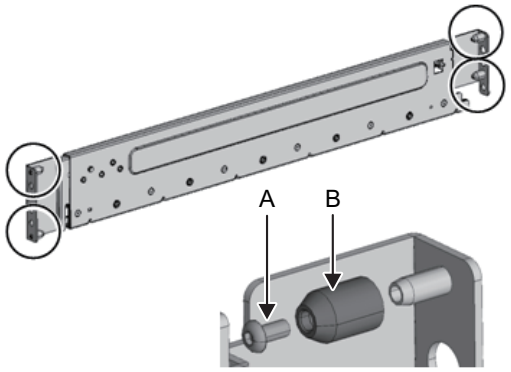
  a. Remove the screw (A in Figure 3-33) securing the rail pin.

  b. Remove the pin (B in Figure 3-33).

  c. Remove pins from the left and right rails in the same manner.

  d. Store the removed pins and screws (eight pins and eight screws in total) for future use when the chassis is moved.

Figure 3-33 Removing pins from the Type-1 rail



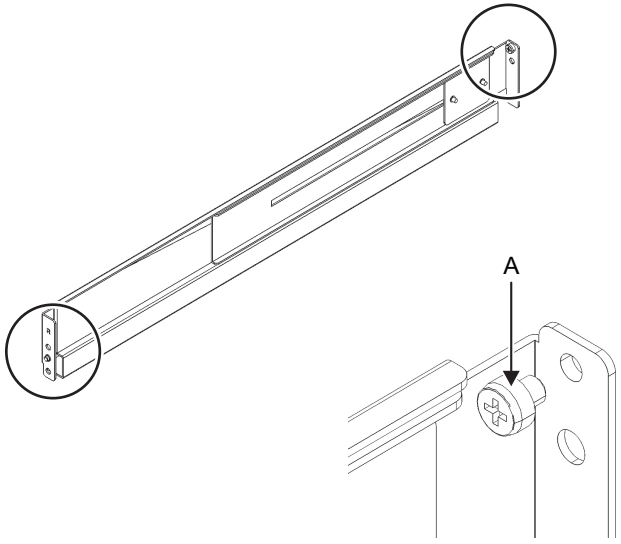
For the Type-2 rail

Remove the pins at the front and rear of the rail.

a. Remove the pins (A in Figure 3-34) at the front and rear of the left and right rails.

b. Store the removed pins (four pins in total) for future use when the chassis is moved.

Figure 3-34 Removing pins from the Type-2 rail



4. **Remove each screw from the side of the rail.**
   For the Type-1 rail, remove the one screw (A in Figure 3-35) from the side of the rail.

   For the Type-2 rail, loosen the two screws (B in Figure 3-36) from the side of the rail.

Note - After removing or loosening the screw or screws, hold the rail level with both hands. If the rail tilts, it may stretch.

Figure 3-35 Screw on the side of the Type-1 rail

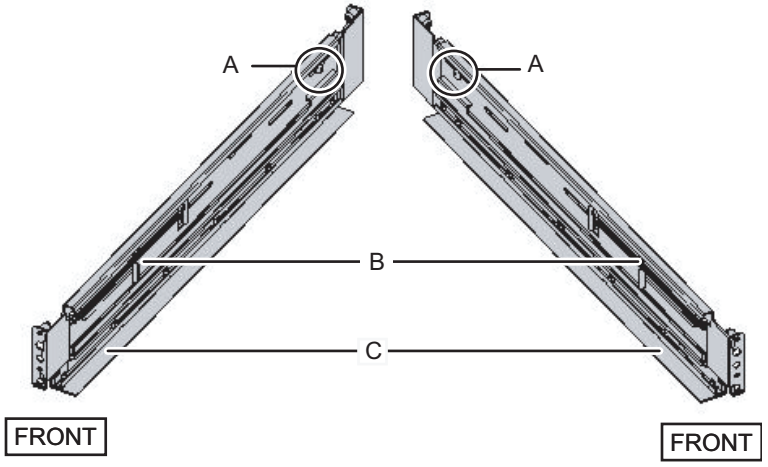
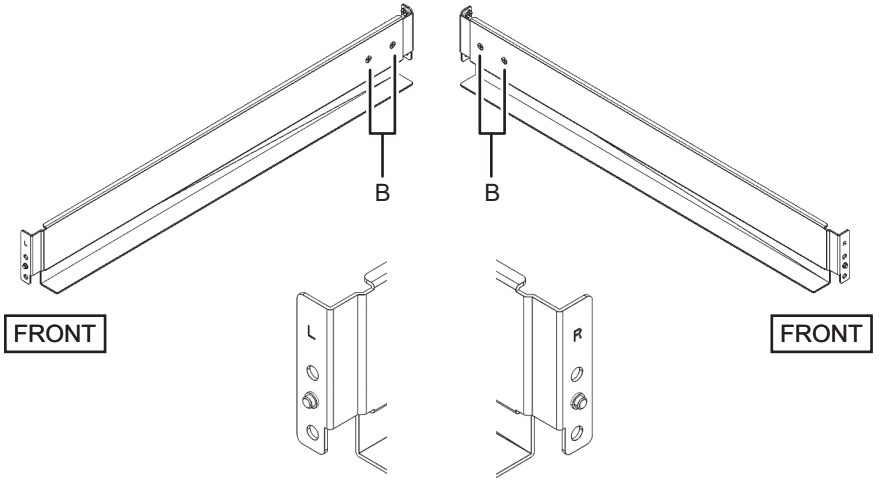


Figure 3-36 Screws on the side of the Type-2 rail



5. **Attach the rail to the rack.**

Note - After removing its screw, hold the rail level with both hands. If the rail tilts, it may stretch.

For the Type-1 rail

Attach the rail such that the spring-loaded side (B in Figure 3-35) faces the front and the flange (C in Figure 3-35) faces the bottom.

a. From the front of the rack, insert the rail protrusions into 2U top and 1U top in the front supporting column of the rack.

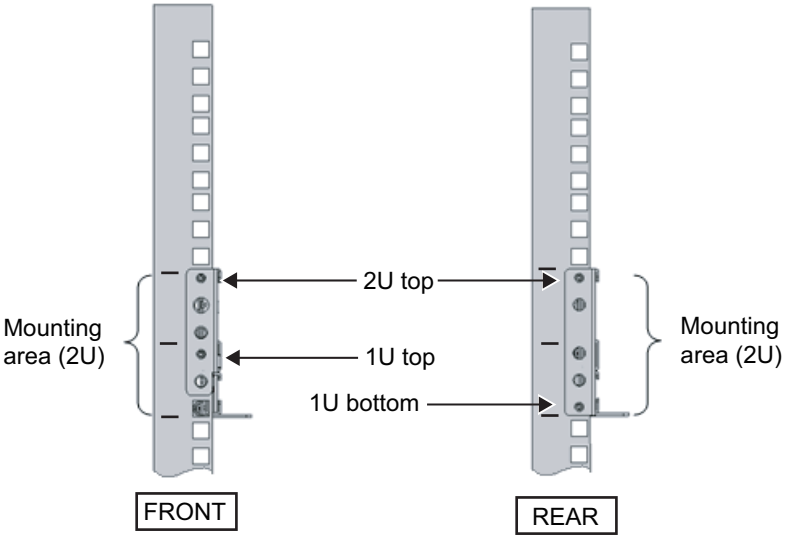
b. Pull out the rail to as far as the depth of the rack.

c. Insert the rail protrusions into 2U top and 1U bottom in the rear supporting column of the rack.

d. Secure the rail with one M6 screw to the front supporting column of the rack. The fixing location is 2U bottom.

e. Attach the other rail in the same manner.

Figure 3-37 Attaching the Type-1 rail: Locations of protrusions



For the Type-2 rail

The letter [R] on a side of a rail indicates that the side is the front right side, and [L] indicates that the side is the front left side.

a. From the rear of the rack, insert the rail protrusion into 1U top in the front supporting column of the rack.

b. Pull out the rail to as far as the depth of the rack.

c. Insert the rail protrusion into 2U top in the rear supporting column of the rack.

d. Secure the rail with one M6 screw to the front supporting column of the rack. The fixing location is 2U bottom.

e. Attach the other rail in the same manner.

Figure 3-38 Attaching the Type-2 rail: Locations of protrusions

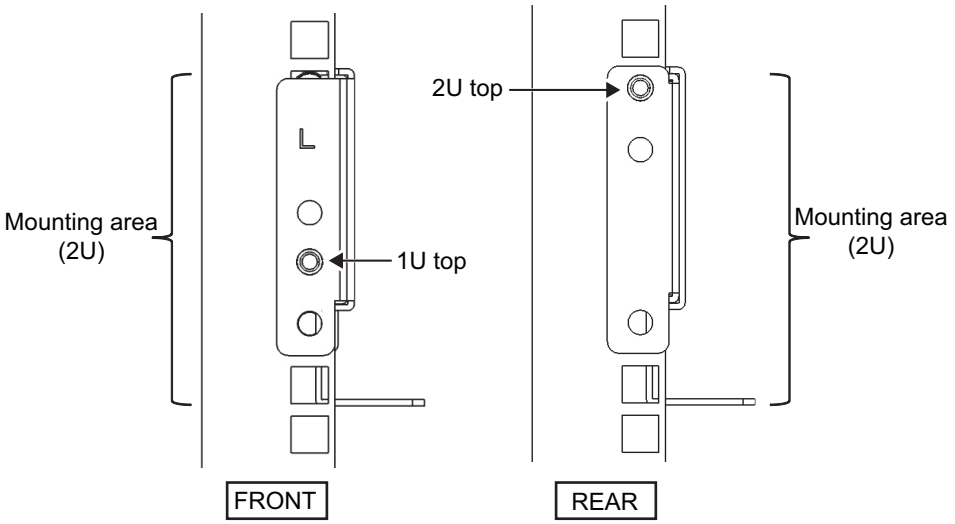
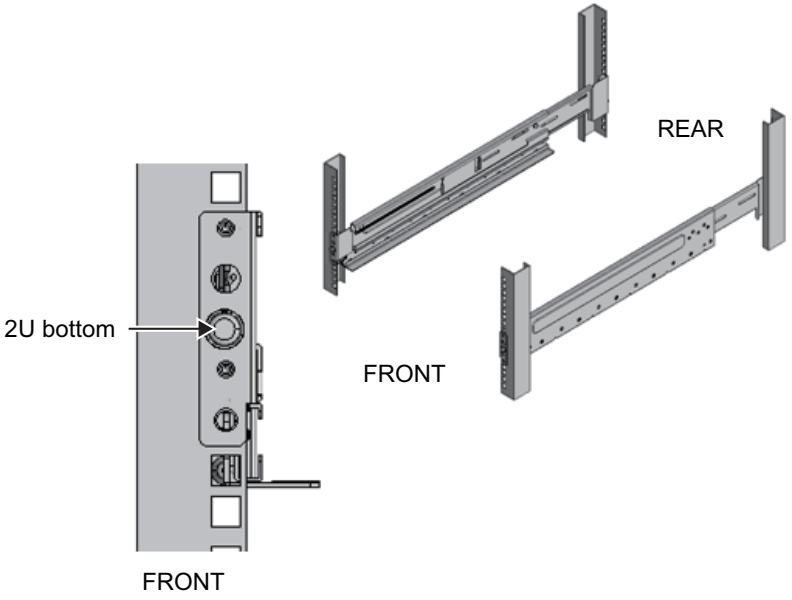


Figure 3-39 Attaching the rail: Fixing location of the screw



6. **Attach the cable support fixing brackets to the rear supporting columns of the rack.**
   For the Type-1 cable support
   a. Orient the notches (B in Figure 3-40) on the cable support fixing brackets (A in Figure 3-40) face down.
   b. From the rear of the rack, secure the rails and cable support brackets with two M6 screws to the rear supporting columns of the rack.

The fixing locations are 1U center and 2U center.

c. After attaching the cable support bracket, confirm that the rack door can close.

Note - If the door cannot close because the cable support fixing bracket or the cable support protrudes from the rear of the rack, do not attach the cable support bracket. However, secure the rail to the rack with two M6 screws.

Figure 3-40 Attaching the cable support fixing bracket

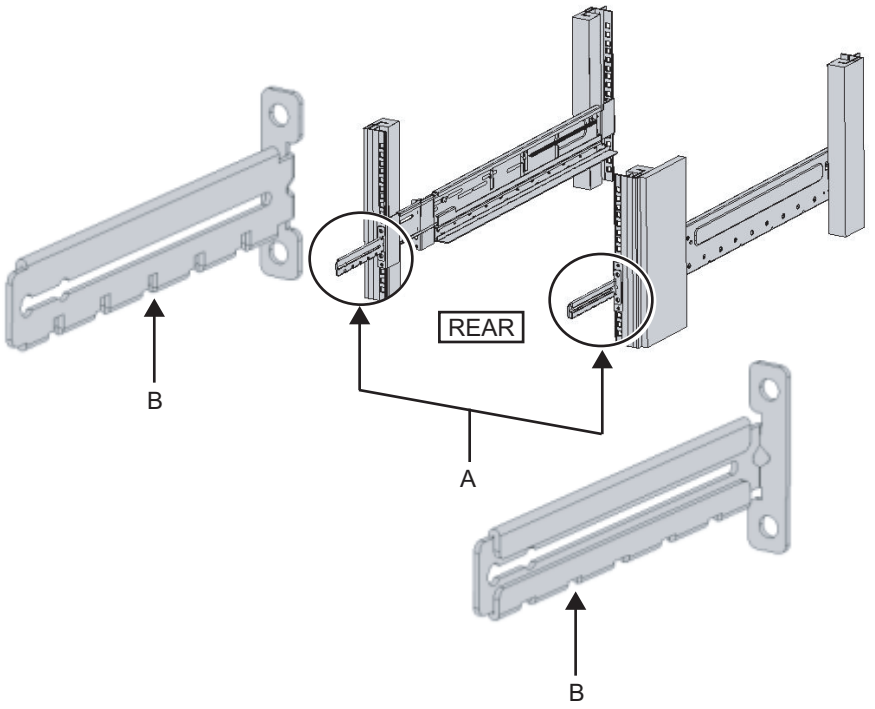
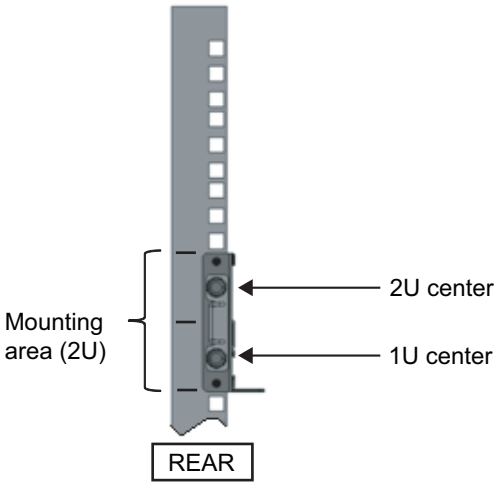


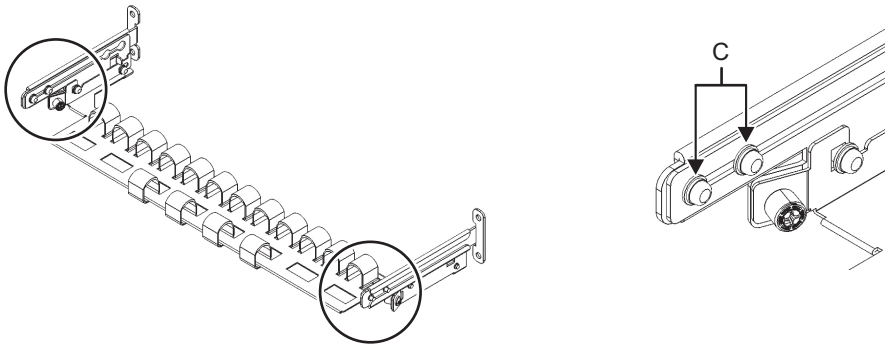
Figure 3-41 Securing the cable support fixing brackets and the rails



For the Type-2 cable support

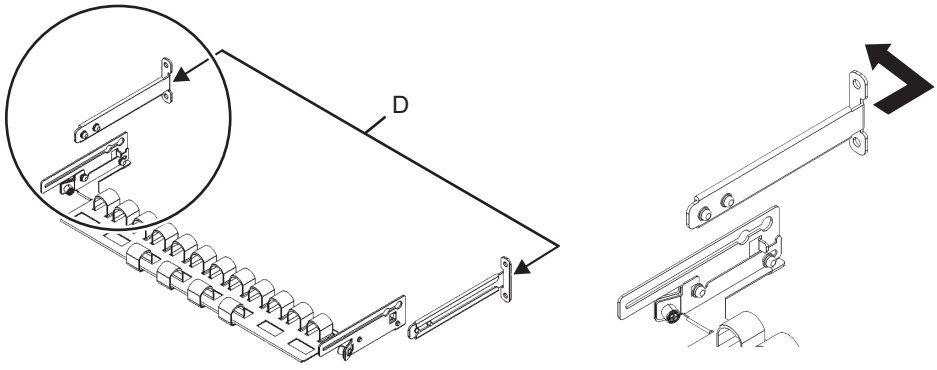
a. Loosen the four screws (C in Figure 3-42) from the inside of the cable support.

Figure 3-42 Removing the cable support fixing brackets (1)



b. Slide the cable support fixing brackets (D in Figure 3-43) to remove them.

Figure 3-43 Removing the cable support fixing brackets (2)



c. From the rear of the rack, secure the rails and cable support fixing brackets (D) with two M6 screws to the rear supporting columns of the rack.
The fixing locations are 1U center and 2U center.

Figure 3-44 Attaching the cable support brackets

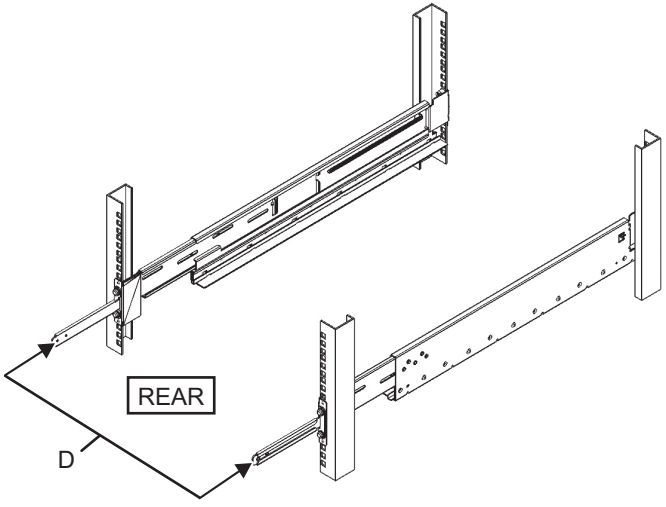
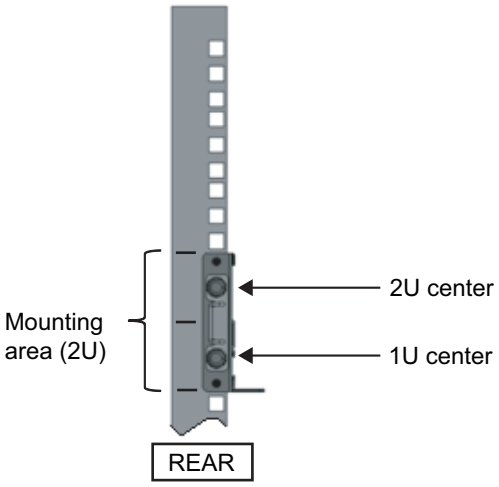


Figure 3-45 Securing the cable support fixing brackets and the rails



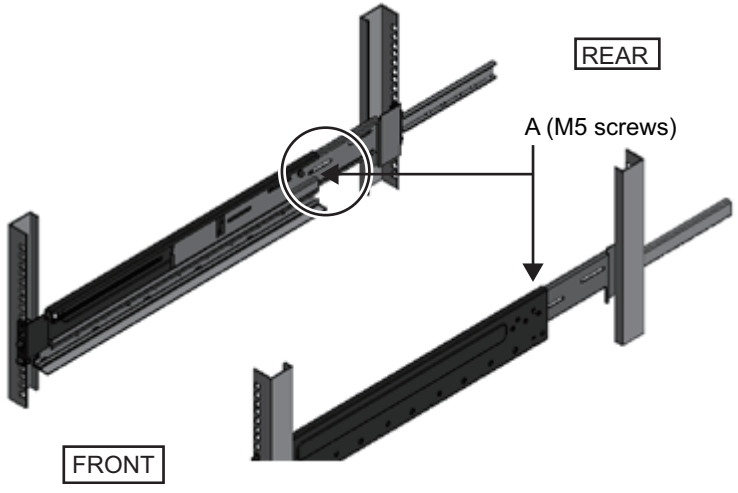
d. After attaching the cable support fixing brackets, confirm that the rack door can close.

Note - If the door cannot close because the cable support fixing bracket or the cable support protrudes from the rear of the rack, do not attach the cable support bracket. However, secure the rail to the rack with two M6 screws.

---

7. **Secure the rail sides by using the screws (M5) removed in step 4 (A in Figure 3-46).**

Figure 3-46 Securing the sides of rails with screws



8. **Mount the PCI expansion unit in the rack.**

Mount the chassis from the front of the rack.

Caution - The PCI expansion unit weighs 22 kg. Exercise thorough caution when mounting it in the rack.

Note - Mount the PCI expansion unit in the rack with two or more people working together. Alternatively, use a lifter.

a. When using a lifter, secure it horizontally.

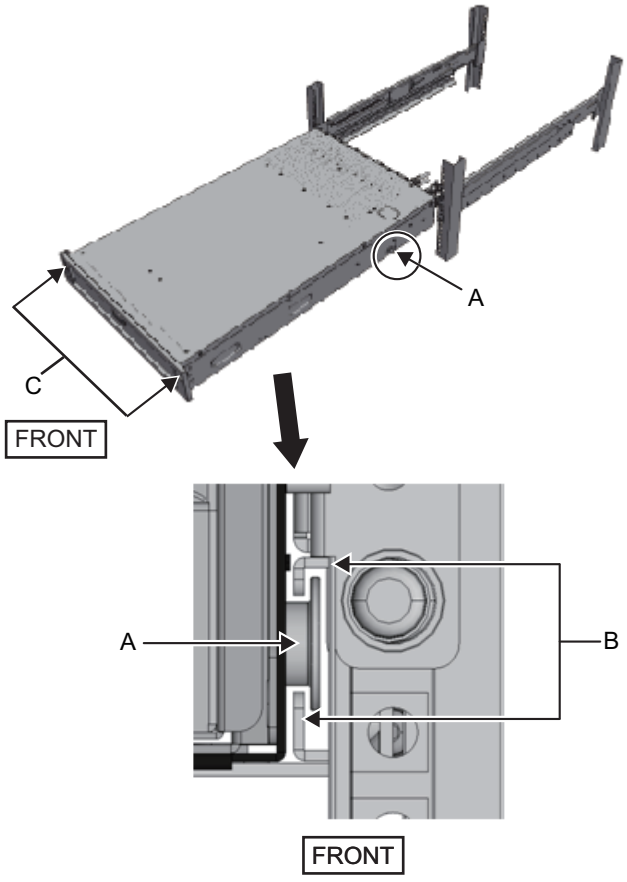
b. Lift the chassis to the mounting location with the lifter or with human force.

c. Put the rear part of the chassis on the flanges of the rails.

d. Slide the PCI expansion unit into the rack. At this time, confirm that the PCI expansion unit sits on the rails and that the guide pins of the PCI expansion unit (A in Figure 3-47) fit into their rail guides (B in Figure 3-47).

e. Insert the PCI expansion unit all the way to store it inside the rack.

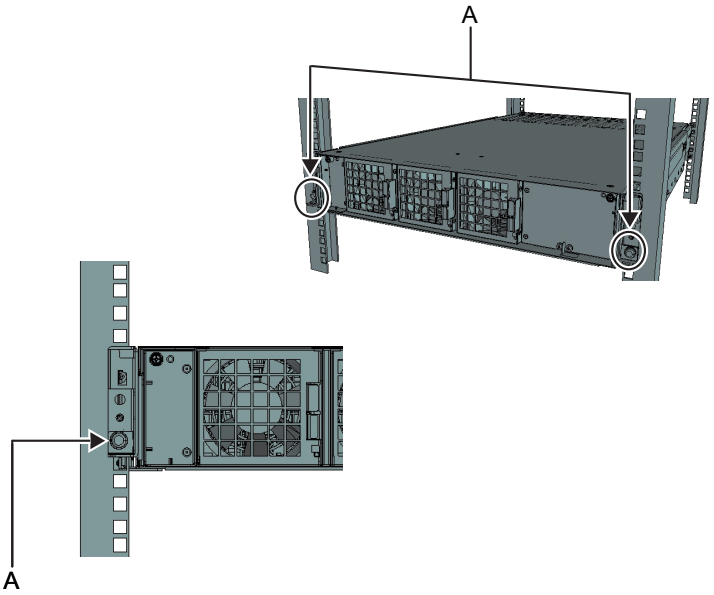
Figure 3-47 Mounting in the rack



9. **Secure the PCI expansion unit in the rack.**
   a. Push out the left and right slide locks on the front cover (C in Figure 3-47) to release the locks, and remove the front cover.
   b. Tighten the two M6 screws at two locations on the front of the PCI expansion unit (A in Figure 3-48) to secure it to the rack.
   c. Insert the left and right hooks on the inside of the bottom of the front cover into the grooves at the bottom front of the PCI expansion unit to attach the front cover.

Note - A label with the serial number of the PCI expansion unit is affixed to the front cover. Be sure to attach the front cover to the corresponding chassis.

Figure 3-48 Securing the PCI expansion unit



10. **Attach the cable support.**
For the Type-1 cable support

a. From the inside of the cable support fixing bracket, align the two screws in the right cable support bracket with the circular holes at the front of the groove, and attach the screws (A in Figure 3-49).

b. Slide the cable support bracket toward the chassis while holding the latch (B in Figure 3-49) attached to it.

c. Attach the left cable support bracket in the same manner. At this time, the left and right sides should have been slid the same amount (depth) toward the chassis.

d. Secure the cable support with two M3 screws (C in Figure 3-50).

e. Close the rear door of the rack, and confirm that the cable support brackets do not interfere. If it interferes, slide the cable support toward the chassis while holding the latches (B in Figure 3-49) of the left and right cable support brackets. The cable support should be in the position nearest the chassis, with the cable support bracket latches engaged.

f. If the cable support interferes with the door even when you slide it toward the chassis as far as possible, remove the cable support.

Figure 3-49 Attaching the cable support brackets

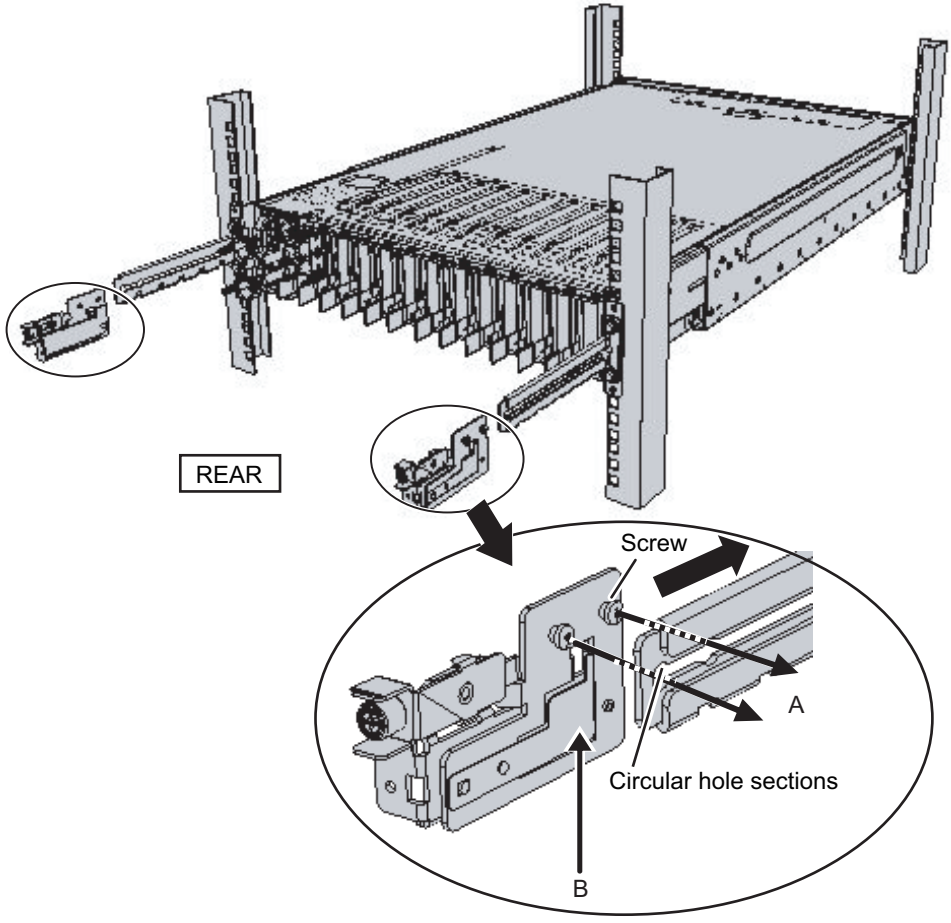
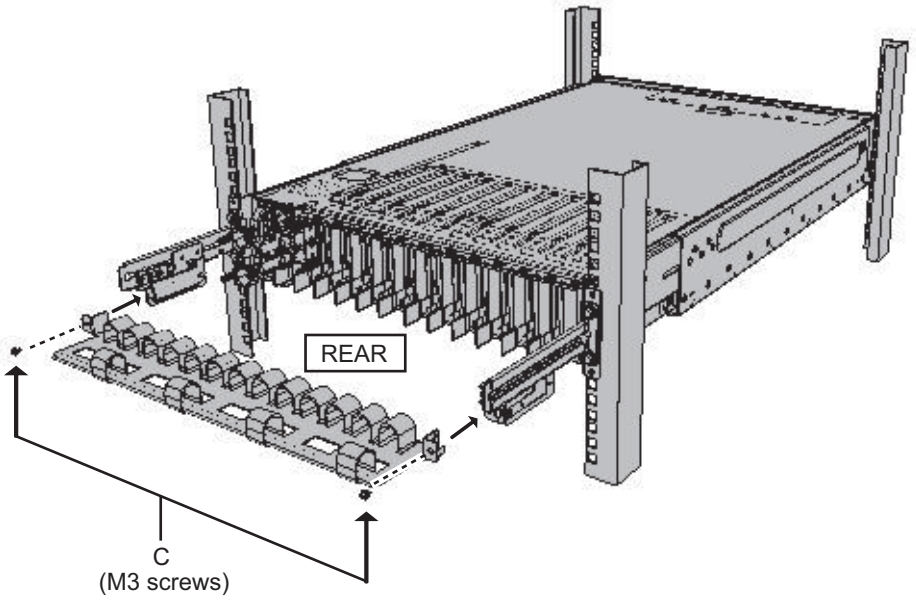


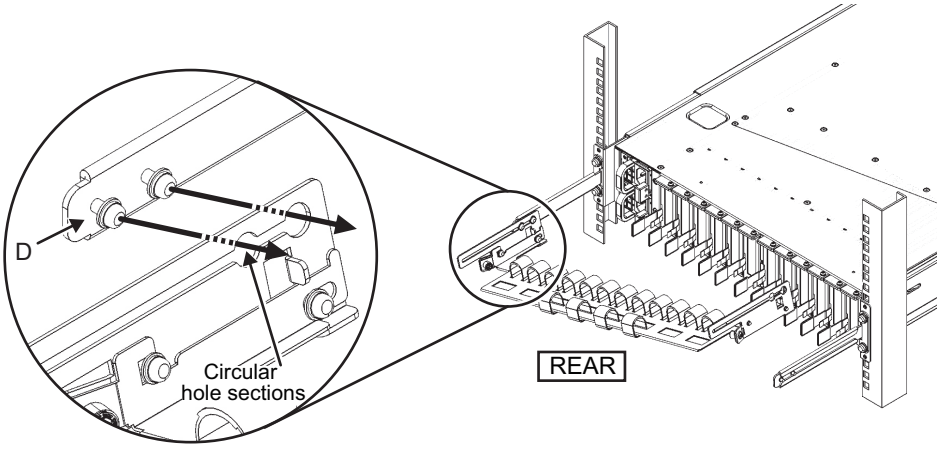
Figure 3-50 Attaching the cable support



For the Type-2 cable support

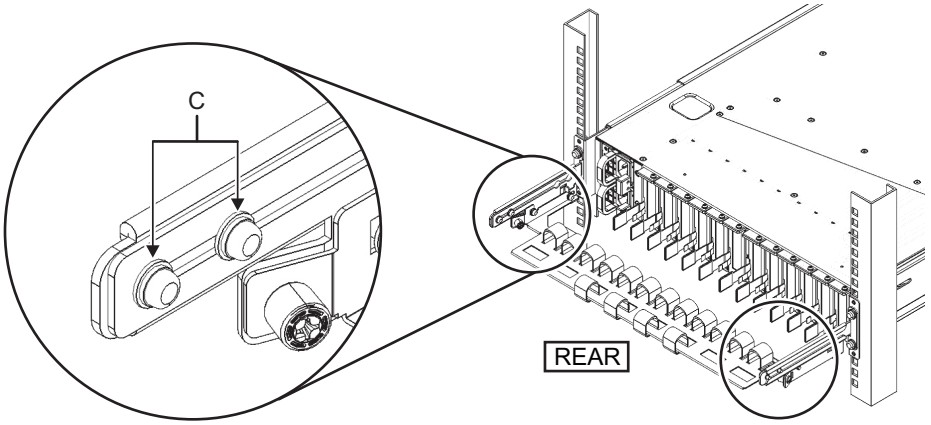
a. Tilt the cable support to align the circular holes at the rear of the groove with the two screws of a cable support fixing bracket (D in Figure 3-51), and attach it. Level the cable support. Then, align the circular holes at the other side with the two screws, and attach it.

Figure 3-51 Attaching the cable support (1)



b. Slide in the cable support all the way, and tighten the four screws (C in Figure 3-52).

Figure 3-52 Attaching the cable support (2)



Note - If the dimension between the front and rear columns of the rack is less than 740 mm, secure the cable support without sliding it in all the way. The fixing location varies depending on the dimension between the front and rear columns of the rack. Based on Figure 3-53, align the scale marks (E in Figure 3-53) (spacing: 10 mm) on the cable support with the screws (F in Figure 3-53) of the fixing brackets to secure the cable support.

Figure 3-53 Attaching the cable support (3)

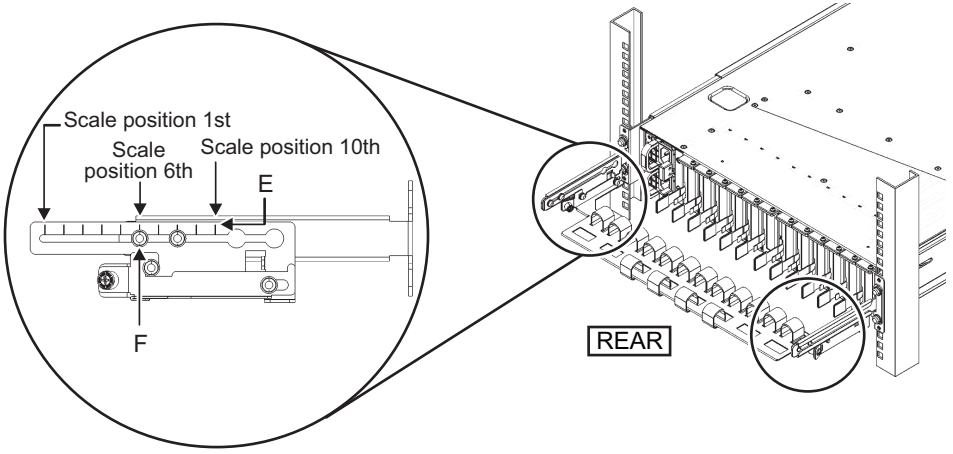


Table 3-5 Dimensions between the front and rear columns and scale positions

Dimension between front and rear columns (mm)	Scale position
740	1st

Table 3-5 Dimensions between the front and rear columns and scale positions *(continued)*

Dimension between front and rear columns (mm)	Scale position
730	2nd
720	3rd
710	4th
700	5th
690	6th
680	7th
670	8th
660	9th
650	10th

Note - If you have difficulty laying a thick cable into the cable support, move forward the fixing location of the cable support to make the work easier.

c. Close the rear door of the rack, and confirm that the cable support does not interfere. If the cable support interferes with the rear door, remove the cable support. Even if you remove the cable support, leave the rails secured with the two M6 screws to the rack.

Figure 3-54 Completed cable support attachment

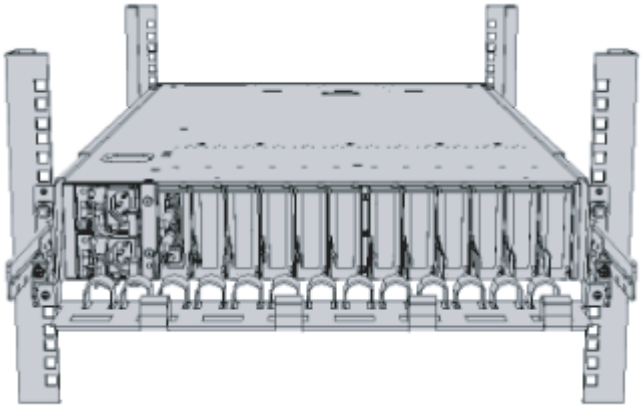
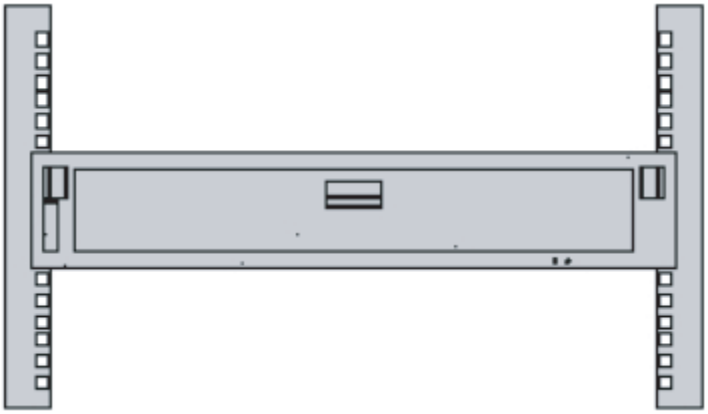


Figure 3-55 Completed PCI expansion unit configuration



3.4 Mounting Optional Components

This section describes the procedures for mounting optional components such as memory and PCIe cards.

If the optional components are ordered together with the chassis, they are shipped mounted in the chassis. If the optional components are ordered separately, they will need to be mounted on site. Mount optional components after mounting the chassis in the rack.

- Mounting optional components in the SPARC M10-4
- Mounting optional components in the PCI expansion unit

3.4.1 Mounting optional components in the SPARC M10-4

The following table lists the optional components and references for the SPARC M10-4. For detailed procedures, see the *Fujitsu M10-4/Fujitsu M10-4S/SPARC M10-4/SPARC M10-4S Service Manual*, and perform work accordingly. All the references in the table can be found in the *Fujitsu M10-4/Fujitsu M10-4S/SPARC M10-4/SPARC M10-4S Service Manual*.

Table 3-6 List of optional components and references for the SPARC M10-4

Optional component name	Reference
Memory	"Chapter 9 Maintaining the CPU Memory Unit/Memory"
Hard disk drive	"Chapter 10 Maintaining the Internal Disks"
PCIe card Link card	"Chapter 8 Maintaining the PCI Express Cards"

3.4.2 Mounting optional components in the PCI expansion unit

The following table lists the optional components and references for the PCI expansion unit. For detailed procedures, see the *PCI Expansion Unit for Fujitsu M10/SPARC M10 Systems Service Manual*, and perform work accordingly. All the references in the table can be found in the *PCI Expansion Unit for Fujitsu M10/SPARC M10 Systems Service Manual*.

Table 3-7 List of optional components and references for the PCI expansion unit

Optional component name	Reference
PCIe card	"Chapter 8 Maintaining the PCI Express Cards"

Chapter 4

Connecting Cables to the Chassis

This chapter describes the procedure for connecting the power cords, serial cable, and network cables to each chassis. All ports for the connections are on the rear of the chassis. For a description of each port, see "2.10 Checking External Interface Port Specifications."

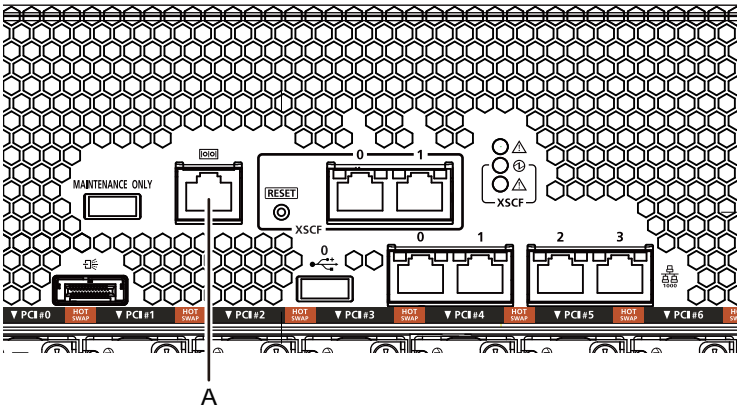
- Connecting Cables to the SPARC M10-4
- Connecting Cables to the PCI Expansion Unit

4.1 Connecting Cables to the SPARC M10-4

This section describes the procedure for connecting the serial cable, network cables, and power cords to the SPARC M10-4.

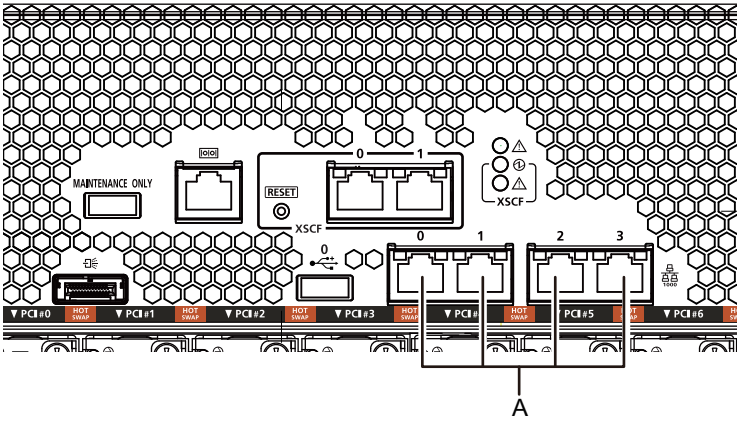
1. **Connect the serial cable supplied with the chassis from the serial port of the XSCF unit (A in Figure 4-1) to the system management terminal.**

Figure 4-1 Serial port location



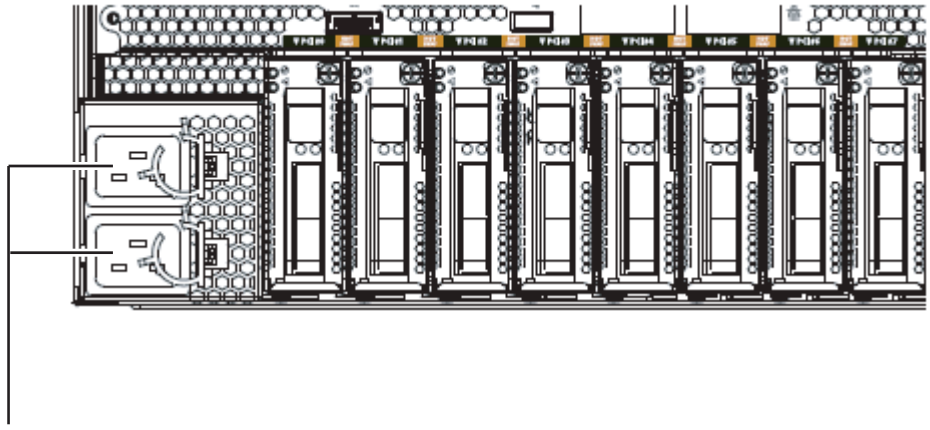
2. **Connect a LAN cable of Category 5 or higher from a GbE port (A in Figure 4-2) to the network switch or hub.**
   The GbE ports are used for the user network. Connect the other servers, other PCs, UPS, etc. that are necessary for business via the network switch or hub.

Figure 4-2 GbE port locations



3. **If a PCIe card is mounted, connect a LAN cable and I/O cable to the respective ports on the PCIe card.**
4. **Secure the cables to the cable support.**
   While leaving extra length, secure the cables connected to the PCIe card to the cable support.
5. **Connect the supplied power cords to the power supply units (A in Figure 4-3).**
   Secure the power cords with a power clamp.

Figure 4-3 Power supply unit locations



Note - Do not connect to an outlet at this point.

4.2 Connecting Cables to the PCI Expansion Unit

This section describes the procedure for connecting the management cable, link cables, and power cords to the PCI expansion unit.

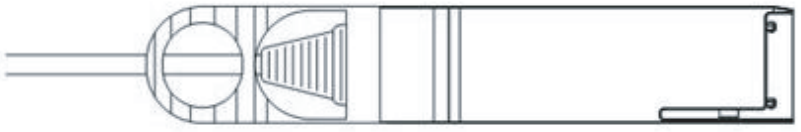
1. **Connect the management cable.**
   Connect the link board of the PCI expansion unit and the link card of the chassis by using the management cable. (See A in Figure 4-5, and A in Figure 4-6.)

2. **Connect link cables.**
   Connect the cables such that the port indications on the link card and link board match the labels on the cables.

   Each port on the link card and link board is color-coded and numbered. Connect the port to the corresponding port of the same color and number.

Note - The two link cables are the same. The labels on both ends of each cable have the same indications. When laying the cables, check their connections to confirm that the ends of the cables connected to the link card and link board are at the same locations as shown on the labels.

Figure 4-4 Link cable (optical) shape



a. Connect one end of a link cable to the port (B in Figure 4-5) on the link board of the PCI expansion unit.

b. Connect the other end to the port (B in Figure 4-6) on the link card of the SPARC M10-4.

c. Connect one end of the other link cable to the port (C in Figure 4-5) on the link board of the PCI expansion unit.

d. Connect the other end to the port (C in Figure 4-6) on the link card of the SPARC M10-4.

Note - The two ports have the same shape and so may be incorrectly connected. Check the labels at both ends of each cable to confirm that the cable is connected to the correct ports. Hold the connector of the link cable (electrical) or link cable (optical), and insert it straight into the opening. Do not hold the cable or its tab part when inserting it.

Note - PCI cassettes are mounted upside down in the SPARC M10-4 and the PCI expansion unit. Accordingly, the port locations of PCIe cards, including the link card, are also upside down. Be careful about this when mounting the cables.

Figure 4-5 Connecting the link cables and management cable (PCI expansion unit side)

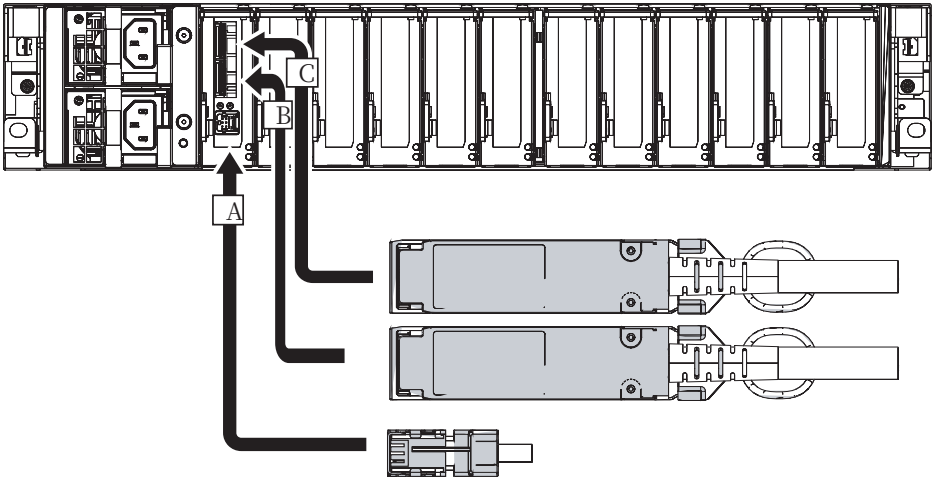
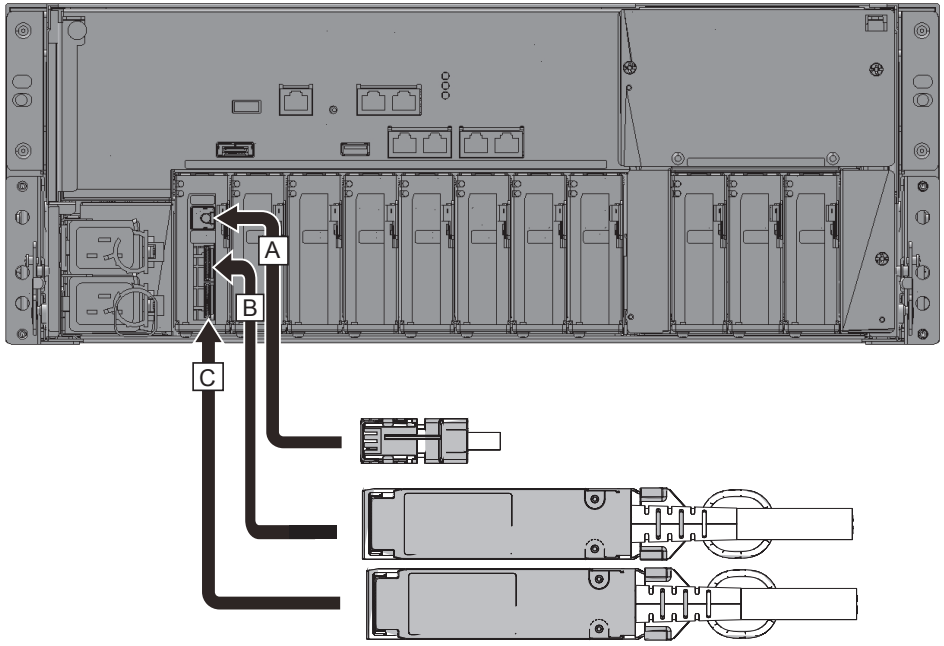


Figure 4-6 Connecting the link cables and management cable (SPARC M10-4 side)



3. **If a PCIe card is mounted, connect a LAN cable and I/O cable to the respective ports on the PCIe card.**
4. **Secure the cables to the cable support.**
   While leaving extra length, secure the cables connected to the PCIe card to the cable support.
5. **Attach a core to each supplied power cord, and connect the cord to a power supply unit.**
   a. Insert the power cord so that it fits into the groove of the core. Pinch the core closed until its latch is secured.
   Attach the core at a location 90 mm (3.5 in) from the end of the power cord connector. (See Figure 4-7)
   b. Connect the power cord to the power supply unit (A in Figure 4-8).
   Secure the power cords with a power clamp.

Figure 4-7 Core attachment location

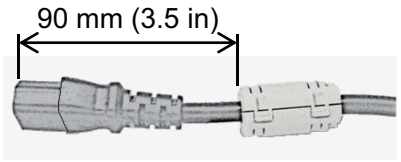
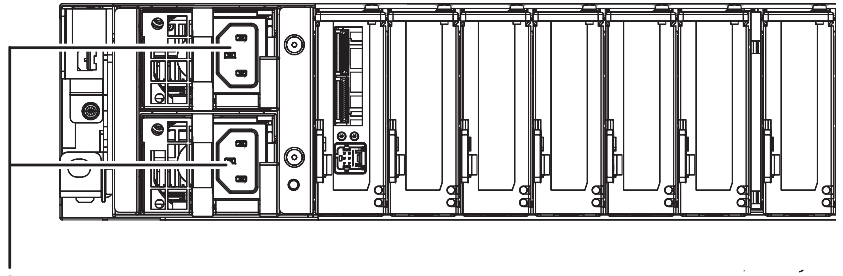


Figure 4-8 Power supply unit locations



Note - Do not connect to an outlet at this point.

Chapter 5

Performing an Initial System Diagnosis

This chapter describes the procedures for connecting the system management terminal, turning on the input power, and checking components.
For details on the XSCF commands executed in each step, see the *Fujitsu M10/SPARC M10 Systems XSCF Reference Manual*.

- Connecting the System Management Terminal to the Chassis
- Turning on the Input Power and Starting the XSCF
- Logging In to the XSCF
- Checking the XCP Version
- Checking the Altitude Setting
- Checking the Time Setting
- Performing a Diagnosis Test
- Checking the Component Status

5.1 Connecting the System Management Terminal to the Chassis

This section describes the procedures for checking the terminal software settings of the system management terminal and connecting the system management terminal to the serial port of the XSCF unit.

1. **Confirm that the terminal software for connecting the system management terminal has the following setting values**.

Table 5-1 Terminal software setting value

Setting item	Value
Baud rate	9600
Data length	8 bits
Parity	None

Table 5-1 Terminal software setting value *(continued)*

Setting item	Value
STOP bit	1 bit
Flow control	None
Delay	Other than 0

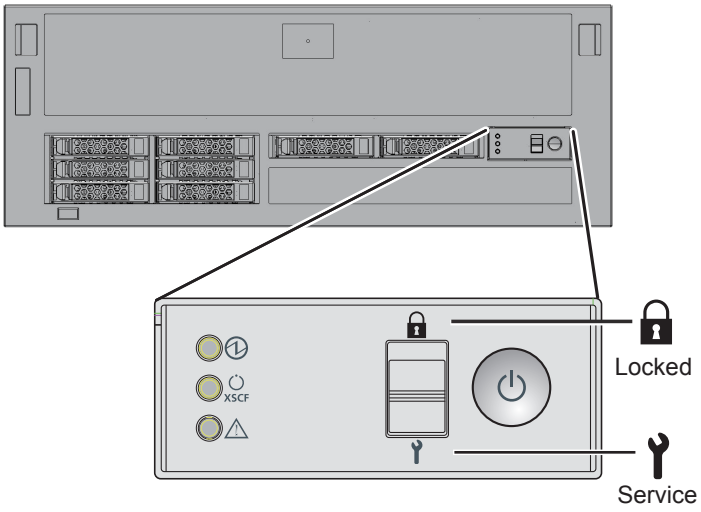
2. **Confirm that the system management terminal is connected to the serial port of the chassis.**

5.2 Turning on the Input Power and Starting the XSCF

This section describes the procedures for connecting the power cords to outlets, turning on the input power, and starting the XSCF.

1. **Set the mode switch on the operation panel to the Service position.**
   The Service position is indicated by a wrench icon. The Locked position is indicated by a lock icon.

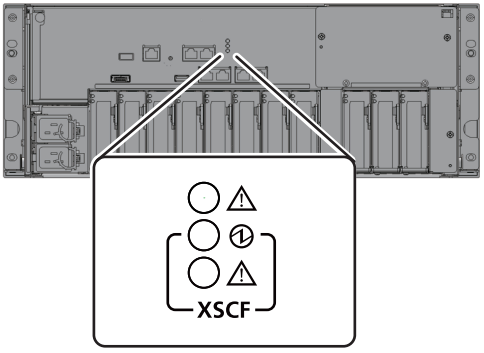
Figure 5-1 Mode switch on the operation panel of the SPARC M10-4



2. **Confirm that the power cord connector is connected to a power supply unit of the chassis.**
3. **Connect the power cord plug to an outlet.**
   If the outlet has a circuit breaker, turn on the circuit breaker switch.

4. **Check the XSCF unit LEDs.**
   a. The CHECK LED of the XSCF unit goes on for an instant immediately after the input power is turned on.
   b. The READY LED of the XSCF unit flashes during XSCF initialization and stays on after the initialization completes.

Figure 5-2 Rear of the SPARC M10-4



5.3 Logging In to the XSCF

This section describes the procedure for logging in to the XSCF by using the default XSCF user account.
Log in to the XSCF by using the default user account and authentication method until a user account appropriate to the user environment is registered for you. The default user privileges are useradm and platadm.

Remarks - platadm is mainly used to manage the whole system. useradm is mainly used to manage user accounts. For details on the user privilege types and the privileges, see Table 6-3.

1. **After the system management terminal displays "SCF_READY", press the [Enter] key.**
2. **After the login prompt appears, enter "default" for the login name.**

```
login: default
```

3. **After a message prompting operation of the mode switch appears, operate the mode switch on the operation panel as follows.**

   a. Switch the mode switch on the operation panel to the Locked position, and press the RETURN key.

```
Change the panel mode switch to Locked and press return...
Omitted
```

b. Leave the switch in that position for at least 5 seconds.

```
Leave it in that position for at least 5 seconds.
```

c. Return the mode switch to the Service position, and press the RETURN key.

```
Change the panel mode switch to Service and press return...
Omitted
```

Note - Complete this switching operation of the mode switch in 1 minute or less. If the operation exceeds 1 minute, login authentication times out.

---

4. **Confirm that the system management terminal displays the XSCF shell prompt.**

```
XSCF>
```

5.4 Checking the XCP Version

This section describes the procedure for checking the XCP version.

1. **Execute the version command.**
   The command comprehensively displays the version.

```
XSCF> version -c xcp
BB#00-XSCF#0 (Master)
XCP0 (Current): 2042
XCP1 (Reserve): 2042
```

5.5 Checking the Altitude Setting

This section describes the procedure for checking and setting the altitude of the installation location. The setting in the factory default settings is 0 m. Check the setting value, and change it as needed.

Note - Setting the altitude in the system makes it possible to detect abnormal intake

temperatures early. If the altitude of the installation location is unknown, set a high altitude. Abnormal temperatures can be detected from abnormal CPU temperatures, for example, even if no altitude is set in the system. This prevents critical damage to the system.

1. **Execute the showaltitude command.**
   The following example displays the system altitude. The factory default setting is "0 m".

```
XSCF> showaltitude
0m
```

2. **If the altitude setting is correct, skip step 2 and subsequent steps. To change the altitude, execute the setaltitude command.**
   The setting is in units of 100 m, and values less than 100 m are rounded up.

   The following example sets the altitude to 100 m.

```
XSCF> setaltitude -s altitude=100
100m
```

3. **Execute the rebootxscf command to reflect the setting. If you are also changing the setting values described in "5.6 Checking the Time Setting," you can skip step 3 and subsequent steps because the XSCF is reset in that procedure too.**
   Executing the rebootxscf command disconnects the XSCF session.

   The following example resets all the XSCFs and automatically selects "y" for the confirmation message.

```
XSCF> rebootxscf -y -a
The XSCF will be reset. Continue? [y|n] :y
```

4. **Log in to the XSCF again**.
   For details, see "5.3 Logging In to the XSCF."

5.6 Checking the Time Setting

This section describes the procedure for setting the system date and time.
The date and time in the factory default settings are set in coordinated universal time (UTC). If you want to display the time in the local time (JST), first set the time zone and then check the time. Change the setting as needed.

1. **Execute the showtimezone command to check the time zone.**
   The following example displays the factory default setting (UTC).

```
XSCF> showtimezone -c tz
UTC
```

2. **To set the time zone, execute the settimezone command, and check which time zones can be set.**
   If you do not want to set the time zone, skip steps 2 and 3.

   The following example displays a partial list of time zones that can be set.

```
XSCF> settimezone -c settz -a
Africa/Abidjan
Africa/Accra
Africa/Addis_Ababa
Africa/Algiers
Africa/Asmara
Africa/Asmera
Africa/Bamako
Africa/Bangui
.
.
```

3. **To set the time zone, execute the settimezone command.**
   The following example sets the time zone to "Asia/Tokyo."

```
XSCF> settimezone -c settz -s Asia/Tokyo
Asia/Tokyo
```

4. **Execute the showdate command to display the XSCF time.**
   If you have set the time zone, the command displays the time in the local time (JST).

   The following example displays the current time in the local time.

```
XSCF> showdate
Sat Oct 20 14:53:00 JST 2012
```

5. **If the time is correct, skip step 5 and subsequent steps. To change the date and time, execute the setdate command.**
   Setting the date and time resets the XSCF.

   The following example sets the local time (JST) to 16:59:00 October 20, 2012.

```
XSCF> setdate -s 102016592012.00
Sat Oct 20 16:59:00 JST 2012
The XSCF will be reset. Continue? [y|n] :y
Sat Oct 20 7:59:00 UTC 2012
XSCF>
```

Note - If the reboot is canceled, the XSCF does not reflect the setting values even when reboot is by the rebootxscf command.

6. **Log in to the XSCF again**.
   For details, see "5.3 Logging In to the XSCF."

5.7 Performing a Diagnosis Test

This section describes the procedure for performing an initial diagnosis of the specified physical system board (PSB) while the power is off.

Note - The PSB is powered on and off during the diagnosis test.
For power-on during the diagnosis test, CPU Activation keys do not need to have been registered.

1. **Execute the testsb command.**
   The testsb command performs an initial diagnosis of the specified physical system board (PSB).

   The command powers on and off the PSB during the diagnosis. By specifying options, you can check whether HDD/SSD/PCIe cards are mounted.

   The following example performs an initial diagnosis of all mounted PSBs and checks the connection I/O.

   <Description of options specified>

   -v: Additionally displays detailed messages of the initial diagnosis

   -p: Executes the "probe-scsi-all" command of OpenBoot PROM and displays the results while a diagnosis is being processed

   -s: Executes the "show-devs" command of OpenBoot PROM and displays the results while a diagnosis is being processed

   -a: Diagnoses all the mounted PSBs

   -y: Automatically responds with "y" to a query

```
XSCF> testsb -v -p -s -a -y
Initial diagnosis is about to start, Continue?[y|n] :y
PSB power on sequence started.
POST Sequence 01 Banner
LSB#00: POST 3.9.0 (2015/01/27 14:14)
:
<<Displayed execution results of "probe-scsi-all">>

/pci@8000/pci@4/pci@0/pci@0/scsi@0
FCode Version 1.00.56, MPT Version 2.00, Firmware Version 17.00.00.00
Target a
```

```
  Unit 0   Disk   TOSHIBA  AL13SEB600       3702    1172123568 Blocks, 600 GB
  SASDeviceName 500003953821f374  SASAddress 500003953821f376  PhyNum 0
Target b
  Unit 0   Encl Serv device   FUJITSU  BBEXP            0d32
  SASAddress 500000e0e0272d7d  PhyNum 14

<<Displayed execution results of "show-devs">>
/pci@8700/pci@4
/pci@8700/pci@4/pci@0
/pci@8700/pci@4/pci@0/pci@11
/pci@8700/pci@4/pci@0/pci@9
/pci@8600/pci@4
/pci@8600/pci@4/pci@0
/pci@8600/pci@4/pci@0/pci@11
/pci@8600/pci@4/pci@0/pci@9
/pci@8500/pci@4
/pci@8500/pci@4/pci@0
/pci@8500/pci@4/pci@0/pci@9
/pci@8500/pci@4/pci@0/pci@8
/pci@8400/pci@4
/pci@8400/pci@4/pci@0
/pci@8400/pci@4/pci@0/pci@a
/pci@8400/pci@4/pci@0/pci@a/network@0,1
/pci@8400/pci@4/pci@0/pci@a/network@0
/pci@8300/pci@4
/pci@8300/pci@4/pci@0
/pci@8300/pci@4/pci@0/pci@8
/pci@8300/pci@4/pci@0/pci@0
/pci@8200/pci@4
/pci@8200/pci@4/pci@0
/pci@8200/pci@4/pci@0/pci@8
/pci@8200/pci@4/pci@0/pci@0
/pci@8100/pci@4
/pci@8100/pci@4/pci@0
/pci@8100/pci@4/pci@0/pci@0
:
PSB  Test    Fault
---- ------- --------
00-0 Passed  Normal
XSCF>
```

2. **Check the execution results of "probe-scsi-all" to confirm that all mounted internal disks are identified.**
3. **Check the execution results of "show-devs" to confirm that all mounted PCIe cards are identified.**
4. **Confirm that "Passed" and "Normal" appear for all PSBs in the results from the initial diagnosis**.
   If the results display anything other than the above, see "Appendix A Troubleshooting."

5.8 Checking the Component Status

This section describes the procedure for checking the configuration, status, and quantities of the mounted field replaceable units (FRUs).

1. **Execute the showhardconf command.**
   The command displays all the FRUs mounted in the chassis and their status. However, it does not display the status of I/O-related components such as PCIe cards and PCI expansion units while the system power is off.

   Example: SPARC M10-4 display example

```
XSCF> showhardconf -M
SPARC M10-4;
    + Serial:2081230012; Operator_Panel_Switch:Service;
    + System_Power:Off; System_Phase:Cabinet Power Off;
    Partition#0 PPAR_Status:Powered Off;
   BB#00 Status:Normal; Role:Master; Ver:2245h; Serial:9000000004;
        + FRU-Part-Number:CA07361-D203 A2 /9999999 ;
        + Power_Supply_System: ;
        + Memory_Size:640 GB;
        CMUL Status:Normal; Ver:0501h; Serial:PP1413006B ;
            + FRU-Part-Number:CA07361-D262 A0 /9999999 ;
            + Memory_Size:384 GB; Type: B ;  (*1)
            CPU#0 Status:Normal; Ver:4141h; Serial:00020053;
                + Freq:3.700 GHz; Type:0x20; (*2)
                + Core:8; Strand:2;          (*3)
                    Omitted
```

*1 For a CMU on which the SPARC64 X+ processor is mounted, "Type: B" is displayed. For a CMU on which the SPARC64 X processor is mounted, "Type: A" is displayed.
*2 If the SPARC64 X+ processor is mounted, "3.400 GHz; Type:0x20" or "3.700 GHz; Type 0x20" is displayed. If the SPARC64 X processor is mounted, "2.800 GHz; Type:0x10" is displayed.
*3 If the SPARC64 X+ (3.7 GHz (8 cores)) processor is mounted, "Core:8" is displayed.

2. **Confirm that no FRU has an asterisk (*) displayed in front of it**.
   The asterisk (*) is a mark indicating the abnormal state of an FRU, where an error or degradation occurred.

   If a failure has occurred in any unit, see "A.2.2 Checking the contents of logs" and "A.2.3 Checking information on a component where a failure or degradation occurred."

3. **Execute the showhardconf -u command.**
   The command displays the quantities of mounted FRUs. However, it does not display the quantities of I/O-related components such as PCIe cards and PCI expansion units while the system power is off.

   Example: SPARC M10-4 display example

```
XSCF> showhardconf -u
SPARC M10-4; Memory_Size:512 GB;
    +-----------------------------------+------------+
    |               FRU                 |  Quantity  |
    +-----------------------------------+------------+
    | BB                                |        1   |
    |      CMUL                         |        1   |
    |          Type:B                   |    (   1)  |
    |          CPU                      |        2   |
    |              Freq:3.400 GHz;      |    (   2)  |
    |          MEM                      |       16   |
    |              Type:07; Size:16 GB; |    (  16)  |
    |      CMUU                         |        1   |
    |          Type:B                   |    (   1)  |
    |          CPU                      |        2   |
    |              Freq:3.400 GHz;      |    (   2)  |
    |          MEM                      |       16   |
    |              Type:07; Size:16 GB; |    (  16)  |
    |      PCICARD                      |        0   |
    |      LINKCARD                     |        0   |
    |      PCIBOX                       |        0   |
    |          IOB                      |        0   |
    |          LINKBOARD                |        0   |
    |          PCI                      |        0   |
    |          FANBP                    |        0   |
    |          PSU                      |        0   |
    |          FAN                      |        0   |
    |      XBU                          |        0   |
    |      OPNL                         |        1   |
    |      PSUBP                        |        1   |
    |          Type:A                   |    (   1)  |
    |          PSU                      |        2   |
    |              Type:B               |    (   2)  |
    |          FANU                     |        5   |
    | XBBOX                             |        0   |
    |      XBU                          |        0   |
    |      XSCFU                        |        0   |
    |      OPNL                         |        0   |
    |      XBBPU                        |        0   |
    |          XSCFIFU                  |        0   |
    |          PSU                      |        0   |
    |          FANU                     |        0   |
    +-----------------------------------+------------+
XSCF>
```

4. **Execute the showlogs error command.**
   Confirm that no error is displayed. If an error is displayed, see "A.2.2 Checking the contents of logs."

```
XSCF> showlogs error
```

5. **Execute the showstatus command.**
   When there is no problem, the command displays nothing.

If a failure has occurred in any unit, an asterisk (*) and the unit status are displayed. See "A.2.3 Checking information on a component where a failure or degradation occurred."

```
XSCF> showstatus
```

6. **To implement the initial system settings, go to "Chapter 6 Making the Initial System Settings." Otherwise, log out of the XSCF.**

Chapter 6

Making the Initial System Settings

This chapter describes the initial settings that must be implemented before system startup.
For details on the XSCF commands executed in each step, see the *Fujitsu M10/SPARC M10 Systems XSCF Reference Manual*.

- Setting the Password Policy
- Setting a User Account and Password
- Configuring the Telnet/SSH Service
- Configuring the HTTPS Service
- Configuring the XSCF Network
- Configuring Memory Mirroring
- Creating a Physical Partition Configuration List (PCL)
- Confirming that a System Board (PSB) is Assigned to a Physical Partition (PPAR)
- Setting a CPU Operational Mode for the Physical Partition
- Synchronizing the Physical Partition (PPAR) Time and XSCF Time
- Registering a CPU Activation Key
- Assigning CPU Core Resources
- Starting and Stopping a Physical Partition (PPAR)

6.1 Setting the Password Policy

Passwords have limitations such as length and character type. Those password attributes conform to rules called the password policy.
The current password policy applies to every user account that is created. For this reason, check the current password policy, and adjust the password policy as needed before creating any user account.

1. **Execute the showpasswordpolicy command to check the password policy.**

```
XSCF> showpasswordpolicy
Mindays:  0
Maxdays:  99999
Warn:     7
Inactive: -1
Expiry:   0
Retry:    3
Difok:    3
Minlen:   9
Dcredit:  1
Ucredit:  1
Lcredit:  1
Ocredit:  1
Remember: 3
```

Table 6-1 Display contents of the showpasswordpolicy command

Display item	Description
Mindays	Minimum number of days after a password change before the next time that the password can be changed. 0 indicates that the password can be changed anytime.
Maxdays	Maximum number of days that a password is valid
Warn	Number of days after a password expiration warning is issued before the password actually expires
Inactive	Number of days after the password expiration time before the account is locked out. The default value is -1. The value of -1 means that the account is not locked after the password expires.
Expiry	Number of days that the account remains valid
Retry	Number of permitted retries to change a password
Difok	Number of characters to be included in the new password but are not included in the old password
Minlen	Minimum permitted password length
Dcredit	Number of numeric characters to be included in a password
Ucredit	Number of uppercase letters to be included in a password
Lcredit	Number of lowercase letters to be included in a password
Ocredit	Number of non-alphanumeric characters to be included in a password
Remember	Number of passwords to be stored in the password history

2. **Execute the setpasswordpolicy command to set the password policy.**
   The setpasswordpolicy command sets the password policy with the following options.

Table 6-2 setpasswordpolicy command options

Option	Password policy
-n	Mindays
-M	Maxdays
-w	Warn
-i	Inactive
-e	Expiry
-y	Retry
-k	Difok
-m	Minlen
-d	Dcredit
-u	Ucredit
-l	Lcredit
-o	Ocredit
-r	Remember

The following example specifies a retry count of 3, a password length of 8 characters including at least 2 numeric characters, an expiration time of 60 days, and 15 days ahead for the start date for warnings before the password expires.

```
XSCF> setpasswordpolicy -y 3 -m 8 -d 2 -u 0 -l 0 -o 0 -M 60 -w 15
```

3. **Execute the showpasswordpolicy command, and confirm the settings.**

```
XSCF> showpasswordpolicy
Mindays:                0
Maxdays:                60
Warn:                   15
Inactive:               -1
Expiry:                 0
Retry:                  3
Difok:                  1
Minlen:                 8
Dcredit:                2
Ucredit:                0
Lcredit:                0
Ocredit:                0
Remember:               3
```

6.2 Setting a User Account and Password

Set a user account and password appropriate to the use environment, and assign a user privilege to the user account. Be sure to register at least one user account having the platadm and useradm user privileges.

1. **Execute the adduser command to add a user account.**
   The following example specifies jsmith for the user account name. If -u is not specified, the UID is automatically assigned.

```
XSCF> adduser jsmith
```

   The following example adds a user account with a UID specified.

```
XSCF> adduser -u 359 jsmith
```

2. **Execute the password command, and specify a password.**

```
XSCF> password jsmith
Password:
Retype new password:
passwd: password updated successfully
XSCF>
```

   The following example specifies 60 days for the expiration time and 15 days ahead for the start date for warnings before the password expires.

```
XSCF> password -M 60 -w 15 jsmith
```

3. **Execute the setprivileges command to assign a user privilege to the user account.**
   The setprivileges command can set the following as user privileges for the entire system.

Table 6-3 User privilege

User privilege	Overview	Description of privilege
platadm	Manage the whole system.	- Can perform all hardware operations for the system. - Can manipulate all XSCF settings except those requiring the useradm and XSCF audit privileges. - Can add/delete hardware in a PPAR. - Can perform power operations for a physical partition. - Can refer to all of the status of the server.

Table 6-3 User privilege *(continued)*

User privilege	Overview	Description of privilege
useradm	Manage user accounts.	- Can create, delete, enable, and disable user accounts. - Can change user passwords and password profiles. - Can change user privileges.
auditop	Refer to the audit status.	Can refer to the XSCF audit status and audit methods.
auditadm	Control auditing.	- Can control XSCF auditing. - Can delete XSCF audit methods.
fieldeng	Allow use by field engineers.	Permits field engineers to only be able to perform maintenance work and change device configurations.

The following example specifies useradm and platadm for the user account.

```
XSCF> setprivileges jsmith useradm platadm
```

Note - The setprivileges command assigns the user privilege of the specified operand.
To add a new user privilege to a user account already assigned a user privilege, specify the existing user privilege too.

4. **Execute the showuser command to check information on a created user account.**

```
XSCF> showuser -l
User Name:            jsmith
UID:                  359
Status:               Enabled
Minimum:              0
Maximum:              60
Warning:              15
Inactive:             -1
Last Change:          May 22, 2013
Password Expires:     Jul 21, 2013
Password Inactive:    Never
Account Expires:      Never
Privileges:           useradm
                      platadm
```

Note - Considering maintenance work, be sure to prepare a field engineer (FE) user account that has the fieldeng user privilege.
We recommend that the system administrator create accounts with the platadm, useradm, auditadm, and fieldeng user privileges.

6.3 Configuring the Telnet/SSH Service

To use the XSCF shell terminal and the control domain console of the specified physical partition, use Telnet or SSH.
SSH and Telnet can be concurrently enabled. However, a Telnet connection is not based on a secure connection protocol. We recommend disabling Telnet when SSH is enabled.

6.3.1 Configuring the Telnet service

This section describes how to configure the Telnet service.

1. **Execute the showtelnet command to display the Telnet setting.**
   The following example displays the Telnet service setting. The factory default setting is "disabled".

```
XSCF> showtelnet
Telnet status: disabled
```

2. **Execute the settelnet command to configure the Telnet service.**
   The following example specifies that the Telnet service be enabled.

```
XSCF> settelnet -c enable
Continue? [y|n] :y
```

3. **Execute the showtelnet command, and confirm that the Telnet setting is "enabled".**

```
XSCF> showtelnet
Telnet status: enabled
```

6.3.2 Configuring the SSH service

1. **Execute the showssh command to display the SSH settings.**
   The following example displays the SSH service settings. The factory default setting is "disabled".

```
XSCF> showssh
SSH status: disabled
RSA key:
```

```
DSA key:
```

2. **Execute the setssh command to configure the SSH service.**
   The following example specifies that the SSH service be enabled.

```
XSCF> setssh -c enable
Continue? [y|n] :y
```

3. **Execute the showssh command to display the host key and fingerprint.**
   A host key is generated when you enable the SSH service for the first time.

```
XSCF> showssh
SSH status: enabled
RSA key:
ssh-rsa
AAAAB3NzaC1yc2EAAAABIwAAAIEAt0IG3wfpQnGr51znS9XtzwHcBBb/UU0LN08S
ilUXE6j+avlxdY7AFqBf1wGxLF+Tx5pTa6HuZ8o8yUBbDZVJAAAAFQCfKPxarV+/
5qzK4A43Qaigkqu/6QAAAIBMLQl22G8pwibESrh5JmOhSxpLzl3P26ksI8qPr+7B
xmjLR0k=
Fingerprint:
1024 e4:35:6a:45:b4:f7:e8:ce:b0:b9:82:80:2e:73:33:c4
/etc/ssh/ssh_host_rsa_key.pub
DSA key:
ssh-dss
AAAAB3NzaC1kc3MAAACBAJSy4GxD7Tk4fxFvyW1D0NUDqZQPY3PuY2IG7QC4BQ1k
ewDnblB8/JEqI+8pnfbWzmOWU37KHL19OEYNAv6v+WZT6RElU5Pyb8F16uq96L8Q
DMswFlICMZgrn+ilJNStr6r8KDJfwOQMmK0eeDFj2mL40NOvaLQ83+rRwW6Ny/yF
1Rgv6PUpUqRLw4VeRb+uOfmPRpe6/kb4z++lOhtp
WI9bay6CK0nrFRok+z54ez7BrDFBQVuNZx9PyEFezJG9ziEYVUag/23LIAiLxxBm
W9pqa/WxC21Ja4RQVN3009kmVwAAAIAON1LR/9Jdd7yyG18+Ue7eBBJHrCA0pkSz
vfzzFFj5XUzQBdabh5p5Rwz+1vriawFIZI9j2uhM/3HQdrvYSVBEdMjaasF9hB6T
/uFwP8yqtJf6Y9GdjBAhWuH8F13pX4BtvK9IeldqCscnOuu0e2rlUoI6GICMr64F
L0YYBSwfbwLIz6PSA/yKQe23dwfkSfcwQZNq/5pThGPi3tob5Qev2KCK2OyEDMCA
OvVlMhqHuPNpX+hE19nPdBFGzQ==
Fingerprint:
1024 9e:39:8e:cb:8a:99:ff:b4:45:12:04:2d:39:d3:28:15
/etc/ssh/ssh_host_dsa_key.pub
```

6.4 Configuring the HTTPS Service

The HTTPS service settings are intended for use of XSCF Web with a connection to the XSCF-LAN and for use of a Web browser window. Use the settings described here to enable/disable HTTPS and use HTTPS. HTTPS is disabled by default in these systems. The XSCF Web console can be a secure console.

Note - We recommend enabling https for the maintenance work of XSCF log collection and

1. **Execute the showhttps command to display the HTTPS service settings.**
   The following example displays an HTTPS service setting. The factory default setting is "disabled".

```
XSCF> showhttps
HTTPS status: disabled
```

2. **Execute the sethttps command to configure HTTPS.**
   The following example enables the HTTPS service.

```
XSCF> sethttps -c enable
The web serverkey or web server certificate which has been
signed by an external certification authority does not exist.
Created self-signed certificate for HTTPS service.Continue?
[y|n] :y
```

   If there is neither a Web server secret key nor a self-signed Web server certificate, the command with "enable" specified automatically configures self-signing, generates a Web server secret key, creates a Web server certificate, and enables HTTPS to complete this work at one time.

3. **Execute the showhttps command, and confirm that the HTTPS setting has changed to "enabled".**

```
XSCF> showhttps
HTTPS status: enabled
Server key: installed in Apr 24 12:34:56 JST 2006
CA key: installed in Apr 24 12:00:34 JST 2006
CA cert: installed in Apr 24 12:00:34 JST 2006
CSR:
-----BEGIN CERTIFICATE REQUEST-----
MIIBwjCCASsCAQAwgYExCzAJBgNVBAYTAmpqMQ4wDAYDVQQIEwVzdGF0ZTERMA8G
A1UEBxMIbG9jYWxpdHkxFTATBgNVBAoTDG9yZ2FuaXphdGlvbjEPMA0GA1UECxMG
b3JnYW5pMQ8wDQYDVQQDEwZjb21tb24xFjAUBgkqhkiG9w0BCQEWB2VlLm1haWww
gZ8wDQYJKoZIhvcNAQEBBQADgY0AMIGJAoGBAJ5D57X/k42LcipTWBWzv2GrxaVM
5GEyx3bdBW8/7WZhnd3uiZ9+ANlvRAuw/YYy7I/pAD+NQJesBcBjuyj9x+IiJl9F
MrI5fR8pOIywVOdbMPCar09rrU45bVeZhTyi+uQOdWLoX/Dhq0fm2BpYuh9WukT5
pTEg+2dABg8UdHmNAgMBAAGgADANBgkqhkiG9w0BAQQFAAOBgQAux1jH3dyB6Xho
PgBuVIakDzIKEPipK9qQfC57YI43uRBGRubu0AHEcLVue5yTu6G5SxHTCq07tV5g
38UHSg5Kqy9QuWHWMri/hxm0kQ4gBpApjNb6F/B+ngBE3j/thGbEuvJb+0wbycvu
5jrhB/ZV9k8X/MbDOxSx/U5nF+Zuyw==
-----END CERTIFICATE REQUEST-----
```

6.5 Configuring the XSCF Network

The XSCF network settings consist of XSCF network interface settings such as for the XSCF-LAN and the protocol for SP to SP communication (SSCP), routing settings, and DNS-related settings. For details on the purpose and configuration of the XSCF network, see "3.7.1 Using services through the XSCF network" to "3.7.5 Understanding the IP addresses that are set with SSCP" in the *Fujitsu M10/SPARC M10 Systems System Operation and Administration Guide*.

Table 6-4 provides the setting items related to the XSCF network and the corresponding XSCF shell commands.
Here, set the essential items in the table. This manual does not describe cases about setting optional items. See "3.7 Configuring the XSCF Network" in the *Fujitsu M10/SPARC M10 Systems System Operation and Administration Guide*.

Table 6-4 Setting items related to the XSCF network

Setting item	Implemented as initial setting?	Reference	Related command
Host name/domain name	Optional	"6.5.1 Setting an XSCF host name and domain name"	sethostname showhostname
XSCF network IP address - XSCF-LAN - Net mask	Implemented	"6.5.2 Setting an Ethernet (XSCF-LAN) IP address"	setnetwork shownetwork
Enabling/Disabling the network	Optional	"3.7.8 Enabling/Disabling the XSCF network and setting an XSCF-LAN IP address and net mask" in the *Fujitsu M10/SPARC M10 Systems System Operation and Administration Guide*.	setnetwork, shownetwork
Adding/Deleting a network route - Destination IP address - Gateway - Net mask	Implemented	"6.5.3 Setting the routing"	setroute showroute
Adding/Deleting a DNS - Name server - Search path	Optional	"3.7.13 Setting the DNS for the XSCF" in the *Fujitsu M10/SPARC M10 Systems System Operation and Administration Guide*.	setnameserver shownameserver
IP packet filtering rule	Optional	"3.7.14 Setting the IP packet filtering rules for the XSCF network" in the *Fujitsu M10/SPARC M10 Systems System Operation and Administration Guide*.	setpacketfilters showpacketfilters
Applying the network	Implemented	"6.5.4 Applying network settings"	applynetwork rebootxscf

6.5.1 Setting an XSCF host name and domain name

1. **Execute the showhostname command to display host names.**
   The following example displays the factory default settings.

```
XSCF> showhostname -a
bb#00:localhost.localdomain
```

2. **Execute the sethostname command to set a host name.**
   For *hostname*, specify the host name to set. For *xscfu*, specify the chassis for the setting. For the SPARC M10-4, specify bb#00.

```
XSCF> sethostname xscfu hostname
```

The following example sets the host name scf0-hostname for BB#00.

```
XSCF> sethostname bb#00 scf0-hostname
```

The following example sets the domain name example.com for XSCF.

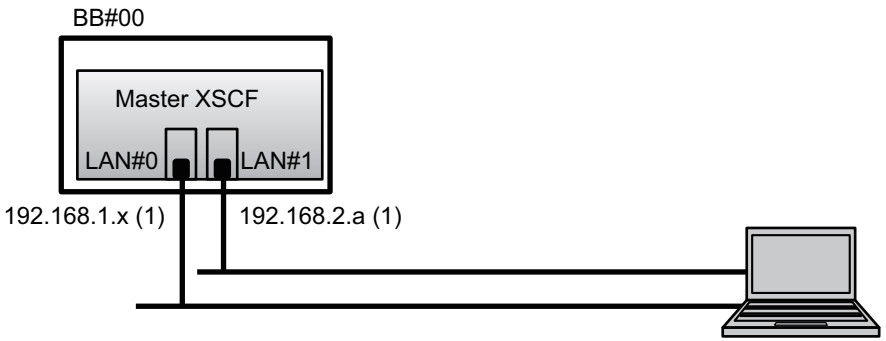
```
XSCF> sethostname -d example.com
```

6.5.2 Setting an Ethernet (XSCF-LAN) IP address

The XSCF-LAN is a LAN established for user access to the XSCF. Two XSCF-LAN ports can be used, depending on the network configuration.

For the SPARC M10-4, set either or both of the following IP addresses:
- XSCF-LAN#0 of BB#00
- XSCF-LAN#1 of BB#00

Figure 6-1 Example of XSCF-LAN settings



Remarks - Configure the XSCF-LAN#0 and XSCF-LAN#1 ports such that they are on different subnets. (See (1) in Figure 6-1.)

1. **Execute the setnetwork command with network interface information specified.**
   The following example sets the IP addresses and net masks for XSCF-LAN#0 and XSCF-LAN#1 of BB#00 to enable them.

```
XSCF> setnetwork bb#00-lan#0 -m 255.255.255.0 192.168.1.x
XSCF> setnetwork bb#00-lan#1 -m 255.255.255.0 192.168.2.a
```

6.5.3 Setting the routing

1. **Execute the showroute command to display the routing environment.**

```
XSCF> showroute -a
Destination     Gateway       Netmask         Flags  Interface

Destination     Gateway       Netmask         Interface
```

2. **Execute the setroute command to set the default gateway.**
   For -n *address*, specify the IP address that is the routing information destination. If 0.0.0.0 is specified in *address*, the command sets the default routing information.

   For -g *address*, specify the gateway address used in routing.

   For *interface*, specify the network interface to be set. For SPARC M10-4, either bb#00-lan#0 or bb#00-lan#1 can be specified.

```
XSCF> setroute -c add -n address -g address interface
```

   The following example adds the default gateway IP address 192.168.1.1 for XSCF-LAN#0 of BB#00.

```
XSCF> setroute -c add -n 0.0.0.0 -g 192.168.1.1 bb#00-lan#0
```

6.5.4 Applying network settings

To complete configuration of the network, settings must be reflected and the XSCF must be reset. The XSCF reset disconnects the XSCF session, so log in again.

1. **Execute the applynetwork command on the XSCF shell.**
   Execution of the command displays the network settings, so you can confirm the settings made.

```
XSCF> applynetwork
The following network settings will be applied:
  bb#00 hostname   :scf0-hostname
  bb#01 hostname   :scf1-hostname
  DNS domain name  :example.com

  interface        :bb#00-lan#0
  status           :up
  IP address       :192.168.1.x
  netmask          :255.255.255.0
  route            :-n 0.0.0.0 -m 0.0.0.0 -g 192.168.1.1

  interface        :bb#00-lan#1
  status           :down
  IP address       :192.168.2.a
  netmask          :255.255.255.0
  route            :-n 0.0.0.0 -m 0.0.0.0 -g 192.168.2.1

     Omitted

Continue? [y|n] :y
Please reset the all XSCFs by rebootxscf to apply the network
settings.
Please confirm that the settings have been applied by executing
showhostname, shownetwork, showroute, showsscp and
shownameserver after
rebooting the all XSCFs.
```

2. **Execute the rebootxscf command to reset the XSCF and complete the settings.**

```
XSCF> rebootxscf -a
The XSCF will be reset. Continue? [y|n] :y
```

Execution of the command disconnects the XSCF connection.

The setting work from this step can be done through an XSCF-LAN connection too.

To switch from a serial connection to an XSCF-LAN connection, connect to the XSCF by specifying its IP address on a PC connected to the XSCF-LAN, and log in again.

3. **Execute the showhostname, shownetwork, and showroute commands again to display the network settings, and confirm the new network information.**

6.6 Configuring Memory Mirroring

This section describes how to configure memory mirroring.

Note - The memory mirror configurations are optional.

The SPARC M10 systems support memory mirroring configurations to protect data through memory duplication. Data reliability increases, but the amount of available memory is halved.

The memory access controller controls writing of data to memory and reading of data from memory. The SPARC M10 systems configure the mirroring by grouping memory into sets controlled by two memory access controllers.

Note - The memory grouped together in a mirroring group must all have the same capacity and be the same rank.

1. **Execute the showfru command to check memory mirror mode.**
   Memory mirror mode is set in the factory default settings.

```
XSCF> showfru -a
Device  Location  Memory Mirror Mode
sb      00-0
  cpu   00-0-0    no
  cpu   00-0-1    no
  cpu   00-0-2    no
  cpu   00-0-3    no
```

2. **Execute the setupfru command to configure memory mirroring.**

```
XSCF> setupfru [-m {y|n}] device location
```

   To configure memory mirroring, specify -m y.

   For device, specify the device for which to configure the mirroring. To configure memory mirroring for all the CPUs mounted on the specified system board (PSB), specify sb. To configure it only for the specified CPU, specify cpu.

   For location, specify the location of the target device. You can specify it in the xx-0-z format. For xx, specify a system board number. For z, specify a CPU chip number from 0 to 3.

   The following example sets all the CPUs mounted on physical system board 00-0 to memory mirror mode.

```
XSCF> setupfru -m y sb 00-0
```

3. **Execute the showfru command to check the set memory mirror mode.**

```
XSCF> showfru -a
Device  Location  Memory Mirror Mode
sb      00-0
  cpu   00-0-0    yes
```

```
cpu    00-0-1    yes
cpu    00-0-2    yes
cpu    00-0-3    yes
```

6.7 Creating a Physical Partition Configuration List (PCL)

A physical partition (PPAR) consists of physical system boards (PSBs). In the physical partition, the hardware resources of a physical system board (PSB) can be assigned to logical system boards (LSB).
Use the showpcl command to check a physical partition configuration list (PCL), and use the setpcl command to set a PCL.
For an explanation of the setpcl command options, see the setpcl command man page or the *Fujitsu M10/SPARC M10 Systems XSCF Reference Manual*.
For the SPARC M10-4, the physical partition configuration information is already set.
For the SPARC M10-4, only the configuration policy can be set.

- Physical system board (PSB)
  The PSB consists of all physical components mounted on a SPARC M10 System chassis such as CPUs and memory. For the SPARC M10-4, a CPU memory unit (containing the <CMUL> on the bottom and the <CMUU> on top) is a physical system board (PSB). The other devices that are treated as physical system boards (PSBs) may include PCIe cards and disk devices. Sometimes, a physical unit of hardware being installed/removed/replaced is described as a physical system board (PSB).
- Logical system board (LSB)
  The LSB is a logical unit name assigned to a physical system board (PSB). Each physical partition has a set of logical system boards (LSBs) assigned to it. A logical system board number is used to control how resources such as kernel memory are assigned to each logical domain.
- System board
  This term is used to describe hardware resources in operations such as configuring or displaying a physical partition.

1. **Execute the showpcl command to check a physical partition configuration list (PCL).**

```
XSCF> showpcl -a
PPAR-ID    LSB    PSB   Status
00                      Powered Off
           00     00-0
```

2. **Execute the setpcl command to set the configuration policy for all physical partitions as a whole.**

```
XSCF> setpcl -p ppar_id -s policy=value
```

In value, specify fru (part), psb (system board), or system (all physical partitions as a whole) as the degradation unit. The default setting is fru.

The following example sets the configuration policy to "All physical partitions" for physical partition 0.

```
XSCF> setpcl -p 0 -s policy=system
```

3. **Execute the showpcl command, and confirm the set physical partition configuration list (PCL).**

```
XSCF> showpcl -v -a
PPAR-ID   LSB   PSB   Status   No-Mem   No-IO    Cfg-policy
00                    Powered Off
                                                System
          00    00-0            False    False
          01    -
          02    -
          03    -
          04    -
          05    -
```

6.8 Confirming that a System Board (PSB) is Assigned to a Physical Partition (PPAR)

For the SPARC M10-4, a system board (PSB) is assigned to a logical system board (LSB) of a physical partition (PPAR) in advance.

1. **Execute the showboards command to check the system board (PSB) status.**

```
XSCF> showboards -a
PSB  PPAR-ID(LSB) Assignment  Pwr  Conn Conf Test    Fault
---- ------------ ---------- ---- ---- ---- ------- --------
00-0 00(00)       Assigned    n    n    n    Passed  Normal
XSCF>
```

6.9 Setting a CPU Operational Mode for the Physical Partition

This section describes how to set a CPU operational mode for the physical partition.

You can use the setpparmode command of the XSCF to set a CPU operational mode for each physical partition.
There are two CPU operational modes (cpumode) that are specifiable for the setpparmode command: auto mode and compatible mode.
The CPU operational mode is set to "auto" mode by default.

- **auto mode:**
  Enables the database speed-up instructions, which are expanded functions of the SPARC64 X+ processor.

  However, if the SPARC64 X+ processors and SPARC64 X processors are mixed, the SPARC64 X+ processors are operated compatibly with the SPARC64 X processor. To perform maintenance by using dynamic reconfiguration in a mixed configuration, specify compatible mode.

- **compatible mode:**
  Operates the SPARC64 X+ processor compatibly with the SPARC64 X processor.

  To configure a physical partition in which SPARC64 X+ processors and SPARC64 X processors are mixed, specify this mode.

Note - For XCP firmware versions and Oracle Solaris versions that support this function, see the *Fujitsu M10/SPARC M10 Systems Product Notes* for the latest XCP version (XCP 2210 or later) for your server.

---

1. **Execute the showpparmode command to check the CPU Mode of the physical partition.**
   "auto" mode is set as the factory default. In this mode it is automatically determined if the operation is performed in extended mode or compatible mode.

```
XSCF>showpparmode -p 0
Host-ID                :0f010f10
Diagnostic Level       :min
Message Level          :normal
Alive Check            :on
Watchdog Reaction      :reset
Break Signal           :on
Autoboot(Guest Domain) :on
Elastic Mode           :off
IOreconfigure          :true
CPU Mode               :auto
PPAR DR(Current)       :off
PPAR DR(Next)          :off
```

2. **To change the CPU mode to "compatible" mode, execute the setpparmode command and set the CPU Mode to "compatible".**

```
XSCF>setpparmode -p 0 -m cpumode=compatible
Diagnostic Level       :max -> -
Message Level          :normal -> -
Alive Check            :on -> -
Watchdog Reaction      :reset -> -
Break Signal           :on -> -
Autoboot(Guest Domain) :on -> -
Elastic Mode           :off -> -
IOreconfigure          :true -> -
CPU Mode               :auto -> compatible
PPAR DR                :off -> -
The specified modes will be changed.
Continue? [y|n] :y
configured.
Diagnostic Level       :max
Message Level          :normal
Alive Check            :on (alive check:available)
Watchdog Reaction      :reset (watchdog reaction:reset)
Break Signal           :on (break signal:non-send)
Autoboot(Guest Domain) :on
Elastic Mode           :on
IOreconfigure          :false
CPU Mode               :compatible
PPAR DR                :off
```

3. **Execute the showpparmode command, and confirm that the CPU Mode of the physical partition has been set to "compatible".**

```
XSCF>showpparmode -p 0
Host-ID                :0f010f10
Diagnostic Level       :min
Message Level          :normal
Alive Check            :on
Watchdog Reaction      :reset
Break Signal           :on
Autoboot(Guest Domain) :on
Elastic Mode           :off
IOreconfigure          :true
CPU Mode               :compatible
PPAR DR(Current)       :off
PPAR DR(Next)          :off
```

6.10 Synchronizing the Physical Partition (PPAR) Time and XSCF Time

This section describes the procedure for clearing the difference between the system time and physical partition (PPAR) time.
The XSCF keeps the time difference from the physical partition. With each change by the setdate command to the system time, the difference is updated with the difference between the physical partition time and the changed system time.
To initialize the time difference between all physical partitions and the XSCF, execute the resetdateoffset command on the XSCF. This command synchronizes the physical partition times after physical partition startup with the XSCF time.

1. **Execute the showdate command to display the XSCF time.**
   If you have set the time zone, the command displays the time in the local time (JST).

   The following example displays the current time in the local time.

```
XSCF> showdate
Sat Oct 20 14:53:00 JST 2012
```

2. **Confirm that the set XSCF time is correct. To change the date and time, execute the setdate command.**
   For details, see "5.6 Checking the Time Setting."

3. **Execute the showdateoffset command to check the times difference between the XSCF system time and physical partition time.**
   The following example displays the difference between the system time and the time of PPAR-ID 0.

```
XSCF> showdateoffset -p 0
PPAR-ID Domain Date Offset
00      0 sec
```

4. **Unless the time difference in step 3 was 0 seconds, execute the resetdateoffset command to initialize the difference between the XSCF system time and the time of the physical partition.**
   The time of each physical partition is set to the XSCF system time at the next physical partition startup.

```
XSCF> resetdateoffset -p 0
Clear the offset of PPAR-ID 0? [y|n] :y
XSCF>
```

6.11 Registering a CPU Activation Key

6.11.1 CPU Activation key application conditions

- The unit of a CPU Activation key is two cores, and you can enter any CPU Activation key individually into a purchased, borrowed, or leased SPARC M10 system. The key makes available two CPU cores, which are assigned in units of a single core to a physical partition.
- A single CPU Activation key cannot be entered and used with multiple SPARC M10 systems at the same time.
- Once entered on a SPARC M10 system, a CPU Activation key can be deleted from that system and re-entered on another SPARC M10 system. Also, a CPU Activation key purchased for a SPARC64 X processor can be deleted from a SPARC M10 system, and then re-entered on a system in which a SPARC64 X+ processor is mounted. However, both SPARC M10 systems where the key is entered must be the same model. Furthermore, the SPARC M10 systems cannot belong to different customers.
- The number/type of software licenses used with the licensed CPU cores differs depending on the software. It is the responsibility of the customer to confirm that proper software licenses are installed for the addition of licensed CPU cores.

6.11.2 Checking a CPU Activation key

1. **Execute the showcodactivation command to check the CPU Activation key information.**
   In the following example, no CPU Activation key has been installed.

   In this case, perform the work in "6.11.3 Registering a CPU Activation key."

```
XSCF> showcodactivation
Index   Description Count
------- ----------- ------
```

   In the following example, a CPU Activation key has already been installed. In this case, skip "6.11.3 Registering a CPU Activation key" and go to "6.12 Assigning CPU Core Resources."

```
XSCF> showcodactivation
Index   Description Count
------- ----------- ------
      0 PROC              2
```

6.11.3 Registering a CPU Activation key

CPU Activation keys are provided on the CD-ROM labeled "SPARC M10-4 CPU Activation" supplied for system deployment. Have the CD-ROM on hand before registering a CPU Activation key.

The CPU Activation keys are contained in text files in the "ACTIVATION_KEY" folder on the CD-ROM. A file for registering the keys as a batch (XXXXX_XX.TXT) and another for registering them one at a time (XXXXX_XX_001.TXT, etc.) are provided. Use either file according to the situation.

The methods of registering a CPU Activation key with the system are as follows: specify and register the CPU Activation key file; or copy and paste the CPU Activation key contents.

How to specify and register the CPU Activation key file

1. **Copy the "ACTIVATION_KEY" contents on the CPU Activation key CD-ROM to a USB device.**
2. **Connect the USB device to the USB connector (where "MAINTENANCE ONLY" is printed) on the XSCF unit panel (rear panel) of the master XSCF.**
3. **Register the CPU Activation key by executing the addcodactivation command from the storage location of the key.**
   The following example specifies the "XXXXX_XX.TXT" file on a USB device to register CPU Activation keys.

```
XSCF> addcodactivation -F file:///media/usb_msd/XXXXX_XX.TXT
Above Key will be added, Continue?[y|n]: y
.......... done.
successfully added Activation Key count : 10.
```

4. **Execute the showcodactivation command, and confirm that the CPU Activation key is registered with the XSCF.**

```
XSCF> showcodactivation
Index   Description Count
------- ----------- ------
      0 PROC            10
```

How to copy and paste the CPU Activation key contents

1. **Insert the CPU Activation key CD-ROM into the system administration terminal.**
2. **Open the ACTIVATION_KEY folder on the CD-ROM.**

3. **Open the relevant file (XXXX_XX_001.TXT), and copy the contents of the key.**
4. **Execute the addcodactivation command to register the CPU Activation key.**
   Specify the CPU Activation key by enclosing it in double quotation marks. You can enter the CPU Activation key by copying and pasting all of its contents.

   Enter "y" for the confirmation message.

   In the following example, a CPU Activation key for two CPU cores is registered.

```
XSCF> addcodactivation "Product: SPARC M10-x
SequenceNumber:xxxx
Cpu: noExpiration 2
Text-Signature-SHA256-RSA2048:
PSSrElBrse/r69AVSVFd38sT6AZm2bxeUDdPQHKbtxgvZPsrtYguqiNUieB+mTDC
nC2ZwUq/JjogeMpmsgd8awSphnJkpbud/87PkP4cUvz/sCPv5xM5M/J+94a3vvEh
IhfmafmVhnvpLvS1Umm6iypOXMASHpPjkWqRt1qvSNwYAYwO0mGXLCUNggamQ4dm
3K3taCYr7WmEEWaUt+H9k84bRTKIlSkePdRuBTrtzUoDRJ2oY3IM6M1/9tRYOMGH
BSr0n0kS0Hfl5hspsbpwTZwozuSayXOSgOZf+su04mri77VisyrfEGpnY053Ye3N
b1GCkFx1RH27FdVHiB2H0A=="
Above Key will be added, Continue?[y|n]: y
```

5. **Execute the showcodactivation command, and confirm that the CPU Activation key is registered with the XSCF.**

```
XSCF> showcodactivation
Index   Description Count
------- ----------- ------
      0 PROC            2
```

6.12 Assigning CPU Core Resources

Assign the CPU core resources made available by a CPU Activation key to a physical partition.

1. **Execute the setcod command interactively to assign the CPU core resources to the physical partition.**
   Specify a PPAR-ID for *-p ppar_id*.

```
XSCF> setcod -p ppar_id -s cpu
```

   The following example interactively assigns four CPU cores to the physical partition.

```
XSCF> setcod -p 0 -s cpu
PROC Permits installed: 4 cores
PROC Permits assigned for PPAR 0 (4 MAX) [Permanent 0cores]
Permanent [0]:4
XSCF>
```

2. **Execute the showcod command, and confirm the number of assigned CPU Activations.**
   The following example assigns four CPU cores to the physical partition 0.

```
XSCF> showcod -v -s cpu
PROC Permits installed : 4 cores
PROC Permits assigned for PPAR 0: 4 [Permanent 4cores]
XSCF>
```

6.13 Starting and Stopping a Physical Partition (PPAR)

Check the start and stop of a physical partition (PPAR). For the initial settings, change the auto-boot? setting to "false" so that Oracle Solaris does not automatically boot immediately after the start of the physical partition.

1. **Execute the setpparparam command to change the auto-boot? setting, which is an OpenBoot PROM environment variable.**

```
XSCF> setpparparam -p 0 -s bootscript "setenv auto-boot? false"
OpenBoot PROM variable bootscript will be changed.
Continue? [y|n] :y
```

2. **Execute the poweron command to start the physical partition.**

```
XSCF> poweron -a
PPAR-IDs to power on:00,01
Continue? [y|n]:y
00:Powering on
01:Powering on
*Note*
This command only issues the instruction to power-on.
The result of the instruction can be checked by the
 "showpparprogress".
```

Note - It takes about 7 minutes for the SPARC M10-4 to start a physical partition.

3. **Execute the showpparprogress command.**
   You can check the progress, in the midst of processing, between physical partition power-on and up to before the start of POST.

   Confirm that the command displays "The sequence of power control is completed." and ends.

Note - Oracle Solaris does not start automatically because the auto-boot? setting is false.

```
XSCF> showpparprogress -p 0
PPAR Power On Preprocessing PPAR#0 [ 1/12]
PPAR Power On               PPAR#0 [ 2/12]
XBBOX Reset                 PPAR#0 [ 3/12]
PSU On                      PPAR#0 [ 4/12]
CMU Reset Start             PPAR#0 [ 5/12]
XB Reset 1                  PPAR#0 [ 6/12]
XB Reset 2                  PPAR#0 [ 7/12]
XB Reset 3                  PPAR#0 [ 8/12]
CPU Reset 1                 PPAR#0 [ 9/12]
CPU Reset 2                 PPAR#0 [10/12]
Reset released              PPAR#0 [11/12]
CPU Start                   PPAR#0 [12/12]
The sequence of power control is completed.
XSCF>
```

4. **Execute the showdomainstatus command, and confirm that status is "OpenBoot Running".**

```
XSCF# showdomainstatus -p 0
Logical Domain Name   Status
primary               OpenBoot Running
XSCF#
```

5. **Execute the console command to connect to the console of the specified physical partition.**
   The auto-boot? setting is false, so you can confirm the start up to the ok prompt.

```
XSCF> console -p 0
Console contents may be logged.
Connect to PPAR-ID 0?[y|n] :y   [Enter] key

{0} ok
```

6. **Press the [Enter] key. Then, press the [#] (default value for the escape symbol) and [.] (period) keys to move from the console to the XSCF shell.**

```
{0} ok #.
exit from console.
XSCF>
```

7. **Execute the poweroff command to stop the physical partition.**

```
XSCF> poweroff -a
PPAR-IDs to power off :00,01
Continue? [y|n] :y
00 : Powering off
01 : Powering off

*Note*
This command only issues the instruction to power-off.
The result of the instruction can be checked by the
 "showpparprogress".
```

8. **Execute the showpparprogress command, and confirm that the command displays "The sequence of power control is completed." and ends.**

```
XSCF> showpparprogress -p 0
PPAR Power Off PPAR#0 [ 1/ 3]
CPU Stop       PPAR#0 [ 2/ 3]
PSU Off        PPAR#0 [ 3/ 3]
The sequence of power control is completed.
XSCF>
```

Oracle Solaris is preinstalled on the SPARC M10 system. According to the purpose, either use the preinstalled Oracle Solaris as is or reinstall it.
To reinstall Oracle Solaris, install the latest Oracle VM Server for SPARC. For the latest information on the supported Oracle Solaris versions and SRU, see the *Fujitsu M10/SPARC M10 Systems Product Notes*.

Appendix A

Troubleshooting

This appendix describes the corrective actions for problems that may occur during installation work on the SPARC M10-4.

- Understanding the Usual Problems and Their Corrective Actions
- Understanding Commands for Troubleshooting

A.1 Understanding the Usual Problems and Their Corrective Actions

If operation is not normal during installation work, you may wonder whether there was a failure. In such cases, inspect the following items and take corrective measures accordingly.

Table A-1 List of problem case examples

Case	Possible cause	Corrective action
The input power cannot be turned on.	The power cord is disconnected.	Connect the power cord correctly.
	The breaker on the distribution board is turned off.	Turn on the breaker.
The system management terminal does not display the login prompt.	The serial cable is not connected to the serial port.	Connect the serial cable correctly to the serial port of the chassis. See Figure 4-1 in "4.1 Connecting Cables to the SPARC M10-4."

A.2 Understanding Commands for Troubleshooting

This section describes the XSCF shell commands used to check detailed error information and the system status.

A.2.1 Checking the component status

Use the showhardconf command to check the status of each field replaceable unit (FRU). The displayed information is as follows:

- Current configuration and status
- Quantities of mounted FRUs by FRU type, such as CPU, memory, and PCIe card
- Physical partition (PPAR) information
- PCI expansion unit information (displayed only when the power to the physical partition is on)
- PCIe card information (displayed only when the power to the physical partition is on)

showhardconf command

Use the showhardconf command to check the system hardware configuration and the status of each component.
A displayed asterisk (*) indicates the fault location regarding a unit where a failure or degradation occurred.
Status displays the following statuses.

- **Faulted:** Non-operational status of the relevant component due to failure
- **Degraded:** A part of the unit has failed, but the unit continues in operation.
- **Deconfigured:** The unit including its components on the lower layers is in a normal condition, but it has been degraded due to the influence of a failure or degradation of another unit.
- **Maintenance:** Maintenance work in progress. The replacefru command is in operation.
- **Normal:** Normal status

Example: SPARC M10-4 display example

```
XSCF> showhardconf -M
SPARC M10-4;
   + Serial:20xxxxxxx; Operator_Panel_Switch:Locked;
    + System_Power:Off; System_Phase:Cabinet Power Off;
    BB#00 Status:Normal; Role:Master; Ver:2209h; Serial:2014020904;
        + FRU-Part-Number:CA07361-D203 B0   /9999999             ;
        + Power_Supply_System: ;
```

```
+ Memory_Size:512 GB;
CMUL Status:Normal; Ver:0301h; Serial:PP140601D9  ;
    + FRU-Part-Number:CA07361-D251 A4   /9999999              ;
    + Memory_Size:256 GB; Type: B ;
    CPU#0 Status:Normal; Ver:4142h; Serial:00020203;
        + Freq:3.400 GHz; Type:0x20;
        + Core:16; Strand:2;
    CPU#1 Status:Normal; Ver:4142h; Serial:00020199;
        + Freq:3.400 GHz; Type:0x20;
        + Core:16; Strand:2;
    MEM#00A Status:Normal;
        + Code:2c800f36KSF2G72PZ-1G6E2 4532-E229CD95;
        + Type:07; Size:16 GB;
    MEM#01A Status:Normal;
        + Code:2c800f36KSF2G72PZ-1G6E2 4532-E229CD9C;
        + Type:07; Size:16 GB;
    MEM#02A Status:Normal;
        + Code:2c800f36KSF2G72PZ-1G6E2 4532-E229CDB4;
        + Type:07; Size:16 GB;
    MEM#03A Status:Normal;
        + Code:2c800f36KSF2G72PZ-1G6E2 4532-E229CDA6;
        + Type:07; Size:16 GB;
    MEM#04A Status:Normal;
        + Code:2c800f36KSF2G72PZ-1G6E2 4532-E229CD9D;
        + Type:07; Size:16 GB;
    MEM#05A Status:Normal;
        + Code:2c800f36KSF2G72PZ-1G6E2 4532-E229CD91;
        + Type:07; Size:16 GB;
    MEM#06A Status:Normal;
        + Code:2c800f36KSF2G72PZ-1G6E2 4532-E229CDA7;
        + Type:07; Size:16 GB;
    MEM#07A Status:Normal;
        + Code:2c800f36KSF2G72PZ-1G6E2 4532-E229CDB7;
        + Type:07; Size:16 GB;
    MEM#10A Status:Normal;
        + Code:2c800f36KSF2G72PZ-1G6E2 4532-E229CDB5;
        + Type:07; Size:16 GB;
    MEM#11A Status:Normal;
        + Code:2c800f36KSF2G72PZ-1G6E2 4532-E229CDB8;
        + Type:07; Size:16 GB;
    MEM#12A Status:Normal;
        + Code:2c800f36KSF2G72PZ-1G6E2 4532-E229CD94;
        + Type:07; Size:16 GB;
    MEM#13A Status:Normal;
        + Code:2c800f36KSF2G72PZ-1G6E2 4532-E229CDBD;
        + Type:07; Size:16 GB;
    MEM#14A Status:Normal;
        + Code:2c800f36KSF2G72PZ-1G6E2 4532-E229CDB9;
        + Type:07; Size:16 GB;
    MEM#15A Status:Normal;
        + Code:2c800f36KSF2G72PZ-1G6E2 4532-E229CDBA;
        + Type:07; Size:16 GB;
    MEM#16A Status:Normal;
        + Code:2c800f36KSF2G72PZ-1G6E2 4532-E229CDBC;
        + Type:07; Size:16 GB;
```

```
        MEM#17A Status:Normal;
            + Code:2c800f36KSF2G72PZ-1G6E2 4532-E229CDBB;
            + Type:07; Size:16 GB;
    CMUU Status:Normal; Ver:0301h; Serial:PP140601DH  ;
        + FRU-Part-Number:CA07361-D271 A3   /9999999              ;
        + Memory_Size:256 GB; Type: B ;
        CPU#0 Status:Normal; Ver:4142h; Serial:00030239;
            + Freq:3.400 GHz; Type:0x20;
            + Core:16; Strand:2;
        CPU#1 Status:Normal; Ver:4142h; Serial:00020195;
            + Freq:3.400 GHz; Type:0x20;
            + Core:16; Strand:2;
        MEM#00A Status:Normal;
            + Code:2c800f36KSF2G72PZ-1G6E2 4532-3837DC35;
            + Type:07; Size:16 GB;
           Omitted
    XBU#0 Status:Normal; Ver:0101h; Serial:PP140601JE  ;
        + FRU-Part-Number:CA07361-D102 A9   /7060924              ;
        + Type: A ;
    XBU#1 Status:Normal; Ver:0101h; Serial:PP140601JD  ;
        + FRU-Part-Number:CA07361-D102 A9   /7060924              ;
        + Type: A ;
    OPNL Status:Normal; Ver:0101h; Serial:PP140502AY  ;
        + FRU-Part-Number:CA20365-B35X 005AC/7060922              ;
    PSUBP Status:Normal; Ver:0201h; Serial:PP1406023P  ;
        + FRU-Part-Number:CA07361-D203 B0   /9999999              ;
        + Type: B ;
    PSU#0 Status:Normal; Ver:303545h; Serial:FA14020039    ;
        + FRU-Part-Number:CA01022-0820  /7088114    ;
        + Power_Status:ON; AC:200 V; Type: B ;
    PSU#1 Status:Normal; Ver:303545h; Serial:FA14020038    ;
        + FRU-Part-Number:CA01022-0820  /7088114    ;
        + Power_Status:ON; AC:200 V; Type: B ;
    FANU#0 Status:Normal;
    FANU#1 Status:Normal;
    FANU#2 Status:Normal;
    FANU#3 Status:Normal;
    FANU#4 Status:Normal;
```

showhardconf -u command

Use the showhardconf command with the -u option to display the quantity of each type of mounted field replaceable unit.
The CPU modules are displayed with the operating frequency, and the memory units are displayed with the capacity per memory. If the option is omitted, the command displays the current configuration information, status information, and physical partition (PPAR) information for each field replaceable unit.

Example: SPARC M10-4 display example

```
XSCF> showhardconf -u
SPARC M10-4; Memory_Size:512 GB;
+-----------------------------------+------------+
```

```
| FRU                                 | Quantity   |
+-------------------------------------+------------+
| BB                                  |    1       |
|     CMUL                            |    2       |
|         Type:B                      | (  1)      |
|         CPU                         |    2       |
|            Freq:3.400 GHz;          | (  2)      |
|         MEM                         |   16       |
|            Type:07; Size:16 GB;     | ( 16)      |
|     CMUU                            |    1       |
|         Type:B                      | (  1)      |
|         CPU                         |    2       |
|            Freq:3.400 GHz;          | (  2)      |
|         MEM                         |   16       |
|            Type:07; Size:16 GB;     | ( 16)      |
|     PCICARD                         |    3       |
|     LINKCARD                        |    0       |
|     PCIBOX                          |    0       |
|         IOB                         |    0       |
|         LINKBOARD                   |    0       |
|         PCI                         |    0       |
|         FANBP                       |    0       |
|         PSU                         |    0       |
|         FAN                         |    0       |
|     XBU                             |    2       |
|        Type:A                       | (  2)      |
|     OPNL                            |    1       |
|     PSUBP                           |    1       |
|        Type:B                       | (  1)      |
|         PSU                         |    2       |
|            Type:B                   | (  2)      |
|         FAN                         |    5       |
| XBBOX                               |    0       |
|     XBU                             |    0       |
|     XSCFU                           |    0       |
|     OPNL                            |    0       |
|     XBBPU                           |    0       |
|         XSCFIFU                     |    0       |
|         PSU                         |    0       |
|         FANU                        |    0       |
+-------------------------------------+------------+
```

A.2.2 Checking the contents of logs

Use the showlogs command to check error logs.

showlogs command

The showlogs command is a command that displays the specified log. By default, the command displays the log in chronological order from the oldest time stamp. You can specify the following logs.
On individual systems, specify the type of log to display from the collected logs. You

can specify one of the following:

- **error:** Error log
- **power:** Power log
- **event:** Event log
- **monitor:** Monitoring message log

On individual chassis of the SPARC M10 systems, specify the type of log to display from the collected logs.

- **env:** Temperature history

On individual physical partitions (PPARs), specify the type of log to display from the collected logs. You can specify one of the following:

- **console:** Console message log
- **panic:** Panic message log
- **ipl:** IPL message log

Example: Display example where an XSCF cable is incorrectly connected

```
XSCF> showlogs error
Date: Oct 29 16:35:09 JST 2012
    Code: 80000000-003bff0000ff0000ff-01a1000400000000000000000
    Status: Alarm                 Occurred: Oct 29 16:35:01.895 JST 2012
    FRU : /BB#1
    Msg: BB control cable detected unexpected
```

A.2.3 Checking information on a component where a failure or degradation occurred

Use the showstatus command to check information on a degraded unit among the FRUs composing the system.

showstatus command

The command displays information on the unit where a failure has occurred and on units on upper layers, among the field replaceable units composing the system. The mark indicating the status (*) appears at the beginning of the line of the displayed unit. Status displays the unit status.

- **Status:** Description
- **Faulted:** Non-operational status of the relevant component due to failure
- **Degraded:** A part of the unit has failed, but the unit continues in operation.
- **Deconfigured:** The unit including its components on the lower layers is in a normal condition, but it has been degraded due to the influence of a failure or degradation of another unit.
- **Maintenance:** Maintenance work in progress. The replacefru command is in operation.

Example: Display example where a CPU and memory of the CPU memory unit

(lower) of BB#00 are degraded because of a failure

```
XSCF> showstatus
   BB#00;
        CMUL Status:Normal;
*           CPU#0 Status:Faulted;
*           MEM#00A Status:Faulted;
```

A.2.4 Checking diagnosis results

Use the testsb command to perform an initial diagnosis of the specified physical system board (PSB).

testsb command

The testsb command diagnoses the configuration of the specified PSB and the operation of each device mounted on the PSB. After completing the diagnosis, the command displays the results. You can also check the diagnosis results with the display of "Test" and "Fault" by the showboards command.

The displayed diagnosis results from testsb are as follows:

- **PSB:** PSB number
- **Test:** Initial diagnosis status of the PSB
  Unmount: The PSB cannot be recognized because it is not mounted or has failed.

  Unknown: The PSB has not been diagnosed.

  Testing: The initial diagnosis is in progress.

  Passed: The initial diagnosis ended normally.

  Failed: A failure occurred in the initial diagnosis.
- **Fault:** PSB degradation status
  Normal: The PSB is normal.

  Degraded: The PSB can operate but has a degraded component.

  Faulted: The PSB is not operating because a failure occurred or cannot be controlled because of a communication failure.

Example: SPARC M10-4 diagnosis example (normal end), including execution of show-devs and probe-scsi-all

```
XSCF> testsb -v -p -s -a -y
Initial diagnosis is about to start, Continue?[y|n] :y
PSB power on sequence started.
POST Sequence 01 Banner
LSB#00: POST 3.9.0 (2015/01/27 14:14)
:
<<Displayed execution results of "probe-scsi-all">>
```

```
/pci@8000/pci@4/pci@0/pci@0/scsi@0
FCode Version 1.00.56, MPT Version 2.00, Firmware Version 17.00.00.00
Target a
  Unit 0   Disk   TOSHIBA  AL13SEB600       3702    1172123568 Blocks, 600 GB
  SASDeviceName 500003953821f374  SASAddress 500003953821f376  PhyNum 0
Target b
  Unit 0   Encl Serv device   FUJITSU  BBEXP            0d32
  SASAddress 500000e0e0272d7d  PhyNum 14

<<Displayed execution results of "show-devs">>
/pci@8700/pci@4
/pci@8700/pci@4/pci@0
/pci@8700/pci@4/pci@0/pci@11
/pci@8700/pci@4/pci@0/pci@9
/pci@8600/pci@4
/pci@8600/pci@4/pci@0
/pci@8600/pci@4/pci@0/pci@11
/pci@8600/pci@4/pci@0/pci@9
/pci@8500/pci@4
/pci@8500/pci@4/pci@0
/pci@8500/pci@4/pci@0/pci@9
/pci@8500/pci@4/pci@0/pci@8
/pci@8400/pci@4
/pci@8400/pci@4/pci@0
/pci@8400/pci@4/pci@0/pci@a
/pci@8400/pci@4/pci@0/pci@a/network@0,1
/pci@8400/pci@4/pci@0/pci@a/network@0
/pci@8300/pci@4
/pci@8300/pci@4/pci@0
/pci@8300/pci@4/pci@0/pci@8
/pci@8300/pci@4/pci@0/pci@0
/pci@8200/pci@4
/pci@8200/pci@4/pci@0
/pci@8200/pci@4/pci@0/pci@8
/pci@8200/pci@4/pci@0/pci@0
/pci@8100/pci@4
/pci@8100/pci@4/pci@0
/pci@8100/pci@4/pci@0/pci@0
:
PSB  Test    Fault
---- ------- --------
00-0 Passed  Normal
XSCF>
```

Appendix B

Setup Command Workflow

This appendix describes the workflow of the XSCF commands executed in installation of the SPARC M10-4.
For details, see the linked sections listed in Table B-1.

Table B-1 XSCF setup command examples

XSCF command example	Description	Mandatory?	Linked section
Making the initial system settings			
version -c xcp	Displays the XCP version	Yes	"5.4 Checking the XCP Version"
showaltitude	Displays the system altitude	Yes	"5.5 Checking the Altitude Setting"
setaltitude -s altitude=100	Sets the altitude Example: The system altitude is set to 100 m.	Optional	"5.5 Checking the Altitude Setting"
rebootxscf -y -a	Resets the XSCF	Optional (*1)	"5.5 Checking the Altitude Setting"
showtimezone -c tz	Displays the XSCF time zone	No	"5.6 Checking the Time Setting"
settimezone -c settz -a	Lists the time zones that can be set	No	"5.6 Checking the Time Setting"
settimezone -c settz -s Asia/Tokyo	Sets the time zone Example: "Asia/Tokyo" is set.	Yes	"5.6 Checking the Time Setting"
showdate	Displays the XSCF clock date and time	Yes	"5.6 Checking the Time Setting"
setdate -s 102016592012.00	Sets the XSCF clock date and time Example: 16:59:00 on 2012/10/20 in local time (JST) is set.	Yes	"5.6 Checking the Time Setting"
testsb -v -p -s -a -y	Performs an initial diagnosis of the PSB	Yes	"5.7 Performing a Diagnosis Test"
showhardconf -M	Displays information on each FRU	Yes	"5.8 Checking the Component Status"
showhardconf -u	Displays the number of mounted units by FRU	No	"5.8 Checking the Component Status"
showlogs error	Displays an error log	Yes	"5.8 Checking the Component Status"

Table B-1 XSCF setup command examples *(continued)*

XSCF command example	Description	Mandatory?	Linked section
showstatus	Displays information on a degraded unit	Yes	"5.8 Checking the Component Status"
Creating an XSCF user			
showpasswordpolicy	Displays the password policy settings	No	"6.1 Setting the Password Policy"
setpasswordpolicy -y 3 -m 8 -d 2 -u 0 -l 0 -o 0 -M 60 -w 15	Sets the system password policy Example: The following is set: a retry count of 3, a password length of 8 characters including at least 2 numeric characters, an expiration time of 60 days, and 15 days ahead for the start date for warnings before the password expires.	Yes	"6.1 Setting the Password Policy"
adduser jsmith	Creates a user account	Yes	"6.2 Setting a User Account and Password"
password jsmith	Sets a password	Yes	"6.2 Setting a User Account and Password"
setprivileges jsmith useradm platadm	Assigns a user privilege	Yes	"6.2 Setting a User Account and Password"
showuser -l	Checks information on a created user account	No	"6.2 Setting a User Account and Password"
Configuring the Telnet/SSH/HTTPS service			
showtelnet	Displays the Telnet service status	No	"6.3.1 Configuring the Telnet service"
settelnet -c enabled	Starts the Telnet service	Optional	"6.3.1 Configuring the Telnet service"
showssh	Displays SSH service information	No	"6.3.2 Configuring the SSH service"
setssh -c enabled	Starts the SSH service	Optional	"6.3.2 Configuring the SSH service"
setssh -c genhostkey	Generates a host key	Optional	"6.3.2 Configuring the SSH service"
showhttps	Displays the HTTPS service status	No	"6.4 Configuring the HTTPS Service"
sethttps -c enable	Starts the HTTPS service	Optional	"6.4 Configuring the HTTPS Service"
Configuring the XSCF network			
showhostname -a	Displays the set host names of the master chassis and the chassis with the standby XSCF	No	"6.5.1 Setting an XSCF host name and domain name"

Table B-1 XSCF setup command examples *(continued)*

XSCF command example	Description	Mandatory?	Linked section
sethostname bb#00 scf0-hostname	Sets a host name Example: The host name "scf0-hostname" is set for BB#00.	Optional	"6.5.1 Setting an XSCF host name and domain name"
sethostname -d example.com	Sets a DNS domain name Example: The domain name "example.com" is set.	Optional	"6.5.1 Setting an XSCF host name and domain name"
setnetwork bb#00-lan#0 -m 255.255.255.0 192.168.1.10	Configures an XSCF-LAN network interface Example: The IP address 192.168.1.10 and the net mask 255.255.255.0 are set for XSCF-LAN#0 of BB#00.	Yes	"6.5.2 Setting an Ethernet (XSCF-LAN) IP address"
showroute -a	Displays routing information	No	"6.5.3 Setting the routing"
setroute -c add -n 0.0.0.0 -g 192.168.1.1 bb#00-lan#0	Sets routing information Example: The default gateway IP address 192.168.1.1 is added to XSCF-LAN#0 of BB#00.	Yes	"6.5.3 Setting the routing"
applynetwork	Applies XSCF network information to the XSCF	Yes	"6.5.4 Applying network settings"
rebootxscf -a	Resets the XSCF	Yes	"6.5.4 Applying network settings"
Setting memory mirror mode			
showfru -a	Displays the set information for all devices	Optional	"6.6 Configuring Memory Mirroring"
setupfru -m y sb 00-0	Sets the memory mounted on a PSB to mirror mode Example: All CPUs under PSB 00-0 are set to memory mirror mode.	Optional	"6.6 Configuring Memory Mirroring"
Configuring a physical partition			
showpcl -a	Displays physical partition (PPAR) configuration information (PCL)	Yes	"6.7 Creating a Physical Partition Configuration List (PCL)"
setpcl -p 0 -s policy=system	Sets the configuration policy Example: The configuration policy is set to "All physical partitions" for physical partition 0.	Optional	"6.7 Creating a Physical Partition Configuration List (PCL)"
showboards -a	Displays information on all mounted PSBs	Yes	"6.8 Confirming that a System Board (PSB) is Assigned to a Physical Partition (PPAR)"
setpparmode -p 0 -m cpumode=compatible	Sets a CPU operational mode for the physical partition	Optional	"6.9 Setting a CPU Operational Mode for the Physical Partition"
Synchronizing the physical partition time with the XSCF time			

Table B-1 XSCF setup command examples *(continued)*

XSCF command example	Description	Mandatory?	Linked section
showdate	Displays the XSCF clock date and time	Yes	"6.10 Synchronizing the Physical Partition (PPAR) Time and XSCF Time"
setdate -s 102016592012.00	Sets the XSCF clock date and time Example: 16:59:00 on 2012/10/20 in local time (JST) is set.	Yes	"6.10 Synchronizing the Physical Partition (PPAR) Time and XSCF Time"
showdateoffset -p 0	Displays the difference between the XSCF time and the physical partition time	Yes	"6.10 Synchronizing the Physical Partition (PPAR) Time and XSCF Time"
resetdateoffset -p 0	Resets the difference between the XSCF time and the physical partition time	Yes	"6.10 Synchronizing the Physical Partition (PPAR) Time and XSCF Time"
Configuring CPU Activation			
showcodactivation	Displays the CPU Activation key information	Yes	"6.11.2 Checking a CPU Activation key"
addcodactivation -F file:///media/usb_msd/XXXXX_XX.TXT	Adds a CPU Activation key Example: The "XXXXX_XX.TXT" file on a USB device is specified to add a CPU Activation key.	Yes	"6.11.3 Registering a CPU Activation key"
setcod -p 0 -s cpu 4	Assigns CPU core resources to a physical partition Example: Four CPU cores are assigned to physical partition 0.	Yes	"6.12 Assigning CPU Core Resources"
showcod -v -s cpu	Checks the number of assigned CPU Activations	Yes	"6.12 Assigning CPU Core Resources"
Starting and stopping a physical partition			
setpparparam -p 0 -s bootscript "setenv auto-boot? false"	Changes the setting of auto-boot?, which is an OpenBoot PROM environment variable	Yes	"6.13 Starting and Stopping a Physical Partition (PPAR)"
poweron -a	Starts a physical partition	Yes	"6.13 Starting and Stopping a Physical Partition (PPAR)"
showpparprogress -p 0	Displays the physical partition status Example: The progress between PPAR-ID 0 power-on and the start of POST is displayed in the midst of processing.	Yes	"6.13 Starting and Stopping a Physical Partition (PPAR)"
showdomainstatus -p 0	Displays the logical domain status Example: The status of all logical domains on PPAR-ID 0 is displayed.	Yes	"6.13 Starting and Stopping a Physical Partition (PPAR)"
console -p 0	Connects to the control domain console of a physical partition (PPAR)	Yes	"6.13 Starting and Stopping a Physical Partition (PPAR)"
poweroff -a	Stops a physical partition	Yes	"6.13 Starting and Stopping a Physical Partition (PPAR)"

Table B-1 XSCF setup command examples *(continued)*

XSCF command example	Description	Mandatory?	Linked section
showpparprogress -p 0	Displays the physical partition status	Yes	"6.13 Starting and Stopping a Physical Partition (PPAR)"

*1 If you execute the setdate command after setting the altitude, you can skip rebootxscf because the XSCF is automatically reset after the command is executed.

Appendix C

Installation Procedure Checklist

This section contains a checklist of the required steps you need to follow from the installation to initial diagnosis of SPARC M10-4 to ensure that the device setup is complete and the device is ready for use.

You can customize this checklist according to your use environment, and use it in combination with the workflow in Table 1-1.

Table C-1 SPARC M10-4 Workflow (from Installation to Initial Diagnosis)

Work description	Check	Person in charge	*Installation Guide* reference
1. Before installing the system, check the safety precautions, system specifications, and necessary conditions for installation.	[ ]		Chapter 2 Planning and Preparing for System Installation
2. Prepare the necessary tools/information for installation.	[ ]		3.1 Preparing the Necessary Tools/ Information for Installation
3. Confirm the delivered components.	[ ]		"3.2.1 Confirming the delivered components of the SPARC M10-4"
	[ ]		"3.2.2 Confirming the delivered components of the PCI expansion unit"
4. Install the rack.	[ ]		
5. Mount the SPARC M10-4 in the rack.	[ ]		"3.3.1 Mounting the SPARC M10-4 in a rack"
6. If there is a PCI expansion unit, mount it in the rack.	[ ]		"3.3.2 Mounting the PCI expansion unit in a rack"
7. After mounting the SPARC M10-4, confirm the complete contact (complete engagement) of the internal disk, fan unit, and PCI cassettes.	[ ]		

Table C-1 SPARC M10-4 Workflow (from Installation to Initial Diagnosis) *(continued)*

Work description	Check	Person in charge	*Installation Guide* reference
8. If there are optional components, mount them on the SPARC M10-4 and the PCI expansion unit. (For details, see the service manual.)	[ ]		"3.4.1 Mounting optional components in the SPARC M10-4" "3.4.2 Mounting optional components in the PCI expansion unit" In the *Fujitsu M10-4/Fujitsu M10-4S/SPARC M10-4/SPARC M10-4S Service Manual*: "Chapter 8 Maintaining the PCI Express Cards" Chapter 9 Maintaining the CPU Memory Unit/Memory" "Chapter 10 Maintaining the Internal Disks"
9. Connect serial cables, LAN cables, and power cords to the SPARC M10-4.	[ ]		"4.1 Connecting Cables to the SPARC M10-4"
10. Connect the link cable and management cable to the PCI expansion unit and the SPARC M10-4. Attach the core to the power cord, and connect the power cord to the PCI expansion unit.	[ ]		"4.2 Connecting Cables to the PCI Expansion Unit"
11. Connect the system management terminal to the SPARC M10-4.	[ ]		"5.1 Connecting the System Management Terminal to the Chassis"
12 Turn on the input power, and check the status from the LED display on the XSCF unit.	[ ]		"5.2 Turning on the Input Power and Starting the XSCF"
13. Log in to the XSCF.	[ ]		"5.3 Logging In to the XSCF"
14. Check the XCP version.	[ ]		"5.4 Checking the XCP Version"
15. Set the altitude.	[ ]		"5.5 Checking the Altitude Setting"
16. Set the time.	[ ]		"5.6 Checking the Time Setting"
17. Perform the initial diagnosis test.	[ ]		"5.7 Performing a Diagnosis Test" The probe-scsi-all command and the show-devs command are displayed as command options in the diagnosis test. Confirm that the installed disk capacity and number of units, and the installation position and device name of the PCI Express card are correct.
18. Confirm that that each component is normally recognized, and no errors occur.	[ ]		"5.8 Checking the Component Status"